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1935

THE GOVERNMENT OF THE PHILIPPINE ISLANDS  
DEPARTMENT OF AGRICULTURE AND COMMERCE  
OFFICE OF THE SECRETARY

MANILA

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# ANNUAL REPORT OF THE SECRETARY OF AGRICULTURE AND COMMERCE

FOR THE FISCAL YEAR ENDING  
DECEMBER 31, 1935



MANILA  
BUREAU OF PRINTING  
1936

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*Philippines (Commonwealth)*

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MANILA

*FILIPINIANA*

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DEPARTMENT OF AGRICULTURE AND COMMERCE

EULOGIO RODRIGUEZ, Secretary

JORGE B. VARGAS, Under Secretary

VICTOR BUENCAMINO, Acting Under Secretary

JOSE S. CAMUS, Director of Plant Industry  
VICTOR BUENCAMINO, Director of Animal Industry

ARTHUR F. FISCHER, Director of Forestry

SIMEON RAMOS, Director of Lands

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ANGEL S. ARGUELLES, Director of Science

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PETRONILO CONGE, Chief, Navigation Division

VICENTE MILLS, Technical Adviser

PASCUAL R. PIMENTEL, Department Chief Clerk



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FOR THE PERIOD FROM JANUARY 1 TO NOVEMBER 14, 1935.

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FOR THE PERIOD FROM NOVEMBER 15 TO DECEMBER 31, 1935.

GOVERNMENT OF THE PHILIPPINE ISLANDS  
DEPARTMENT OF AGRICULTURE AND COMMERCE  
OFFICE OF THE SECRETARY  
MANILA

PART I  
REPORT OF THE SECRETARY OF  
AGRICULTURE AND COMMERCE

FOR THE PERIOD FROM JANUARY 1  
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ANNUAL REPORT OF THE SECRETARY OF  
AGRICULTURE AND COMMERCE

MANILA, December 31, 1935

His Excellency

## The United States High Commissioner

## Manila

(Through the President of the Philippines)

SIR: Pursuant to the provisions of section 91 of the Administrative Code, I have the honor to submit herewith the following report of the Department of Agriculture and Commerce for 1935, up to and including November 14, the end of the Government of the Philippines under the Jones Law, as required by Executive Order No. 831, dated September 16, 1935, of His Excellency, the Honorable Frank Murphy, then Governor-General:

## I. CHANGES IN PERSONNEL

Under Secretary Jorge B. Vargas continued on detail in the Office of the President of the Philippine Senate.

Dr. Victor Buencamino continued on detail as Acting Under Secretary of Agriculture and Commerce.

Assistant Director Cornelio Balmaceda, Acting Director of Commerce since August 17, 1934, was appointed Director of Commerce.

Manuel S. Rustia was appointed Assistant Director of Commerce January 31, 1935.

Dr. Leopoldo A. Faustino, Assistant Director of Science, died November 8, 1935. His position is still vacant.

## II. ORGANIZATION

Upon assuming office, July 26, 1934, the undersigned effected a reorganization of the functional work of the Department for the purpose of securing economy in expenditures and efficiency in service. The consolidation of divisions formerly existing as independent offices was completed January 1, 1935, with the reapportionment of the Accounting and Property Division to the various bureaus of the Department. As the Department is now organized, the following bureaus, divisions, and boards function under its jurisdiction: Office of the Secretary, the Bu-

reau of Plant Industry, the Bureau of Animal Industry, the Bureau of Forestry, the Bureau of Lands, the Bureau of Commerce, the Bureau of Science, the Weather Bureau, the Statistics Division, the Publications Division, the Fiber Inspection Service, the Navigation Division, the Veterinary Examining Board, and the Board of Examiners for Surveyors.

### III. PRESSING PROBLEMS DIRECTLY HANDLED BY THE SECRETARY

The undersigned personally took charge of the direction of the most pressing problems confronting the Department; namely, (a), the Davao problem, (b), the case of the San Jose Estate in Mindoro, (c), the Aguinaldo indebtedness question, (d) industrialization, and (e), purchase of large estates owned by religious corporations and other proprietors.

#### THE DAVAO PROBLEM

Previous to the handling of the Davao problem by the undersigned, several administrative and legislative investigations had been conducted with no apparent results. In order to get at the root of the situation, the undersigned headed a party which proceeded to Davao last February with a view to obtaining first-hand information relative to the alien landholdings in Davao and in other places in Mindanao, and to see personally the actual conditions obtaining there. About a month before the departure of our party from Manila, the undersigned gave instructions to the field personnel in Davao to conduct a detailed investigation into the alleged violation of our Public Land Law. At the same time the undersigned sent to Davao an advance party from the Manila Office for the purpose of gathering facts and data regarding the alleged landholdings in the hands of aliens.

As a result of our investigation we found that the total extension of land in Davao now in the hands of aliens reaches the significant area of 59,998.8659 hectares. The lands controlled by aliens may be classified as follows:

- (a) Alien landholdings acquired from private persons.
- (b) Alien landholdings legally acquired from the Government.
  - 1. Those patented or the patents to which are pending issuance.
  - 2. Those covered by lease applications.
- (c) Public lands applied for by Filipinos and Americans but occupied by aliens.

We are not concerned with the first two kinds of landholdings, as this Department has no jurisdiction over lands of private ownership and as some of these landholdings have been legally acquired by the aliens from the Government. This Department concerns itself only with the third class of landholdings, which consists of homestead, free patent, lease, and sale applications having an aggregate area of 32,096.3155 hectares, which have been applied for by Filipinos or Americans but are being actually occupied and cultivated by aliens.

In order to solve the problem of alien landholdings in Davao, we made the following recommendations to the Governor-General who approved them:

First, that no action be taken on any public land concessions in Mindanao until we are convinced that there is no indication of a violation of the Public Land Law, and to this end General Memorandum Order No. 122 was issued by this Department, as follows:

In order to effectively enforce the provisions of the Public Land Act (Act No. 2874, as amended) and the laws governing pasturing on public lands, and in order to detect and prevent violations of said laws, the following shall be observed with regard to the handling of all public land applications, i. e., homestead, sale or lease applications, or pasture permits, for parcels of land in the island of Mindanao, particularly in the provinces of Davao, Cotabato, Lanao, and Zamboanga:

#### STANDING APPLICATIONS FOR AGRICULTURAL PUBLIC LANDS

1. No action leading to the approval of any unapproved public land application shall be taken until further order;
2. No action leading to the approval of transfer of rights to, and the issuance of patent to lands covered by approved public land application shall be taken until further order;
3. Instead, the Director of Lands shall make, in accordance with section 89 of Act No. 2874, investigation of each and every public land application for the purpose of ascertaining whether or not the application has been made in good faith and for the actual purpose of using the land for the object specified in the application; whether or not the application is made for the exclusive benefit of the applicant and not, either directly or indirectly, for the benefit of any other person or persons, corporation, association, or partnership. In other words, investigation should be made to find out whether or not the applicant has violated, is violating, or may intend to violate or evade the provisions of the Public Land Act by allowing other persons, foreigners, Filipinos, Americans, or otherwise, to have direct or indirect interest in the land applied for, or by alienating or subletting the said land; and whether or not the applicant is financially, physically, or otherwise, capable of utilizing the land for the purpose applied for,

4. Upon discovery of any violation of the Public Land Act, the Director of Lands shall immediately take appropriate action leading to the cancellation or rejection of the application, as the case may be, and this Office should be informed accordingly;

#### STANDING APPLICATIONS FOR PASTURE LANDS

5. With particular reference to public lands devoted to pasture, the Directors of Lands and of Forestry are hereby instructed to exert all efforts to see to it that the land applied for is in fact used as such by the applicant and that it is for his exclusive benefit. Care should be taken so as to prevent using pasture permits for forest land as a means of acquiring said land for agricultural purposes when released from the forest zone. Investigations from time to time should be made in order to check these matters and to find out whether or not a pasture permittee is occupying land in excess of the area granted him.

#### NEW APPLICATIONS FOR AGRICULTURAL LANDS

6. The Director of Lands shall not accept new public land applications for parcels of public land not yet open to concession although already classified by the Bureau of Forestry as alienable and disposable agricultural lands. Applications filed under these circumstances shall be returned unrecorded; and

7. No new public land application shall be accepted by the Director of Lands for lands open to concession and already classified by the Director of Forestry as fit for agricultural purposes, except under the condition that the applicant shall be made to understand clearly that until allowed by the Director of Lands, the mere filing of an application does not authorize him to enter upon and cultivate the land applied for. The field personnel of the Bureau of Lands shall spare no effort in educating the people on this unauthorized entry upon public lands and informing them of the penalty therefor.

8. This General Memorandum Order shall take effect as of March 1, 1935.

Second, a closer supervision is to be exercised over the issuance of pasture permits by the Bureaus of Lands and of Forestry in order that the lands covered thereby may be utilized for the purposes for which they are intended. It was found that these pasture permits are being used as a means of acquiring extensive landholdings which later were turned over to and occupied by aliens for speculative purposes.

Third, three cadastral survey parties are to be directed to go to Davao for the purpose of surveying and subdividing public lands there into parcels of small and convenient sizes to be disposed of only to qualified applicants who can, after proper investigation, show that they are able to develop the said lands.

The next step this Department took was the cancellation or rejection, as the case may be, of applications in the names of Filipinos or Americans who had either leased or subleased their landholdings to aliens in violation of the express provisions of the Public Land Law. This Office has approved the orders issued by the Director of Lands rejecting or cancelling the applications of Government officials, those of ex-government officials, and those of the wives of Government officials. This action of the Department is supported by an opinion rendered by the Secretary of Justice on December 13, 1934, who held that contracts entered into by Filipinos or Americans with aliens are illegal and are contrary to the express provisions of the Civil Code and the Public Land Law.

The undersigned has also approved the orders submitted by the Director of Lands to the undersigned cancelling or rejecting applications of private persons who had illegally leased or subleased their landholdings to aliens. The cancellation or rejection of these applications was made with the approval of the Governor-General. The undersigned had to take an uncompromising stand on this question because he believes that the Government is in duty bound to enforce the law, no matter whether the violator be a Filipino, an American, or a foreigner. In taking action on the different cases involving violations of the Public Land Law, the undersigned and his assistants gave opportunities to all parties concerned to be heard, and in rendering our decisions on the matter we took into account not only the provisions of law but also the dictates of justice and equity. After the cancellation of the illegal leases and subleases, the Government will take possession of the properties covered by such cancelled or rejected applications and administer or dispose of them to the greatest number of our people.

#### THE CASE OF THE SAN JOSE ESTATE IN MINDORO

This case refers to a portion of the San Jose Estate in the Province of Mindoro, containing an area of 18,284.8150 hectares. The said estate originally belonged to the religious order of the Agustinian Recollects from whom it was purchased by the Government October 4, 1904. January 4, 1910, the then Director of Lands, acting for and in behalf of the Government of the Philippine Islands, sold to E. L. Poole, with the approval

of the Secretary of the Interior, under whose jurisdiction was then the Bureau of Lands, the tract of land involved in this case. The sale was made pursuant to Act No. 1120 commonly known as the Friar Lands Act. On May 31, 1913, the said vendee, E. L. Poole, sold, assigned, and transferred all his rights and interests in and title to the land in favor of Charles J. Welch and Horace Havemayer who, in turn, on October 31, 1917, assigned their rights and interests in the said land to the Mindoro Sugar Company, of which the Roman Catholic Archbishop of Manila is the trustee. Up to December 31, 1927, the aggregate of the installments paid on account of the purchase price amounted to only ₱358,152, leaving a balance of ₱238,768 which, including the interest to November 15, 1935, amounting to ₱58,498.16, makes a total of ₱297,266.16 of indebtedness November 15, 1935.

The Roman Catholic Archbishop of Manila as trustee of the Mindoro Sugar Company, and the latter itself, have been repeatedly requested by this Department to settle this obligation. Several propositions were offered by the debtor looking towards an amicable settlement of the matter. Finally, in a conference held for the purpose of thrashing out this matter, the undersigned, representing the Government of the Philippine Islands, informed the Archbishop and the other members of the Board of Trustees representing the Mindoro Sugar Company:

(1) That in view of the provision of law restricting the holding of a corporation to a maximum of 1,024 hectares, the Mindoro Sugar Company shall retain an area of only 1,024 hectares out of the portion already improved and that the rest of the estate having an area of 17,260.8156 hectares shall be returned to the Insular Government. Title shall be given by the Government for these 1,024 hectares but the Company shall have to defray the expenses of the segregation survey.

(2) That the sum of ₱358,152 already paid by the Company shall be retained by the Government as payment for the 1,024 hectares which is to be granted to the Company, for the interests paid by the Government on the bonds floated to purchase the land from the original owners thereof and to compensate whatever losses the Government may have sustained in the transaction. The Company shall be relieved of any further obligation with respect to paying the balance of the purchase price.

Giving effect to the conditions above stated, the Director of Lands January 29, 1935, issued an order cancelling and revoking Sale Certificate No. 2 of January 4, 1910, covering the land in question, and declaring reverted to the Government all the land and the improvements thereon, except such portion of the improved area not exceeding 1,024 hectares which was

granted to the Mindoro Sugar Company. At the same time the Mindoro Sugar Company, through its trustee and other representatives, was ordered to vacate the land in question except the area of 1,024 hectares which was referred to above. This order was duly approved by the undersigned.

The Archbishop moved for the reconsideration of this order but the motion was denied by the Director of Lands February 26, 1935, which latter order was also approved by the undersigned.

This Office, so far, has taken no action with a view to taking possession of the property, in view of the request of the representative of the Archbishop to postpone action until a desired new satisfactory arrangement could be made on the matter. Until now no such arrangement has been proposed by the Archbishop and so it is the intention of this Office to take possession of the property and subdivide it into lots of convenient sizes to be distributed among people who desire to acquire public land.

#### THE AGUINALDO INDEBTEDNESS QUESTION

On various dates General Aguinaldo purchased from the Government 69 parcels of friar lands situated in the municipalities of Naic, General Trias, and Imus, Province of Cavite, comprising an aggregate area of 1,185.7795 hectares, for the total price of ₱243,475, of which 23 parcels with an aggregate area of 73.1635 hectares and a total sale value of ₱22,043 are recorded in the names of other persons, and 11 parcels with an aggregate area of 722.9147 hectares and a total sale value of ₱158,524 were purchased in the name of the Paliparan Agriculture Company. For every parcel a sale certificate had been issued by the Bureau of Lands, which serves as the contract of sale between the Government and General Aguinaldo. Among the terms and conditions provided in the contract are: That the purchase price of the lots be paid, without notice or demand, in annual installments in amounts specified; that the balance of the purchase price bear interest of 4 per cent per annum; and that if the purchaser fails or neglects to make any payment as provided, the Director of Lands shall proceed to enforce the payment of the amount in default.

In spite of the fact that the installments and interest on these sale contracts have long been due, General Aguinaldo has so far paid only the amount of ₱36,264.61 (₱25,111.59 in installments and ₱11,153.02 in interest), leaving an unpaid balance of ₱218,363.41 and interest due amounting to ₱77,254.53. Some

of the overdue installments and interest date back to 1915. Although he has paid the total amount of ₱36,264.61, yet during the entire period of more than 20 years when he has been in possession and usufruct of the lands in question, the Government has been paying interest on the value of the bonds issued in connection with the original purchase by the Government of these lands. Repeated demands have been made upon him to pay but he has failed or neglected to meet his obligation. For this reason the Director of Lands, with the approval of the undersigned, issued an order, November 26, 1934, cancelling and revoking all the sale contracts covering the 69 lots above referred to and forfeiting in favor of the Government all amounts paid on account of the purchase price thereof, and the lands were declared vacant and subject to sale at auction.

Subsequent to the order of cancellation of the sale contracts, the original purchaser of one of the parcels requested a reconsideration of the order in so far as his lot was concerned, which request was granted as he made a substantial payment thereon. Excluding this lot and those which the General offered as security for a loan to be discussed elsewhere, there remain pending for disposition 60 lots with an aggregate area of 1,102.4098 hectares, of a total sale value of ₱236,898, on which only the total amount of ₱20,144.61 (₱15,561.32, as installments and ₱4,583.32, as interest) has been paid by General Aguinaldo, leaving a balance of ₱215,224.47 in installments and ₱84,534.98 in interest up to November 15, 1935.

The sale of these lots has been held in abeyance, however, due to General Aguinaldo's request, through his attorney, Don Felipe Agoncillo, to keep the matter in status quo pending action by the Senate on House Bill No. 1666, presented and approved by the then House of Representatives, and under consideration by the Senate, providing for the grant or donation to the General of all these lots of the Friar Lands Estates and the proposed consequent condonation of his entire indebtedness to the Government consisting of the selling price of these lots, and of his loan from the San Lazaro Investment Fund. Furthermore, the election for the establishment of the Commonwealth was then approaching and General Emilio Aguinaldo was proclaimed a candidate for president and it was thought that to proceed at the time with the execution of the decision of this Department in the nature indicated above might be misinterpreted as an act of persecution or of revenge for the General's political activities.

In addition to the above obligation General Aguinaldo obtained a loan of ₱18,008.03 from the San Lazaro Investment Fund, of which ₱6,678.81 was received by him in cash and the balance of ₱11,329.22 was applied to the installments and interest due on some of his lots. The securities given for the loan were his preference rights to eleven lots with an aggregate area of 115.9379 hectares and a total sale value of ₱36,909, together with a building and machinery found thereon, originally valued at ₱28,500. On these lots he has paid ₱15,879.47 (₱9,519.27 as installments and ₱6,360.20, as interest). The building was destroyed long ago, while the machinery is now **worthless**.

No payment has been made on the loan except ₱1,000 as interest, and the accumulated unpaid interest thereon amounted up to November 28, 1934, to ₱51,894.95, bringing his unpaid obligation up to then to the total sum of ₱69,902.98.

For the purpose of settling this loan with the San Lazaro Investment Fund, General Aguinaldo proposed to cede to the Government the securities of the loan, namely, his preference rights to the nine lots and the building and machinery mortgaged by him.

As General Aguinaldo was unable to pay, and as, according to an investigation conducted by a representative of the Bureau of Lands, he has no other properties free from encumbrance, the land department accepted the proposition of General Aguinaldo, November 28, 1934, subject to the condition that the amounts paid by him on account of the purchase price of the lots offered by him as security and on account of the interest on the loan, be forfeited in favor of the Government and that when the lots are offered again for sale he will not bid therefor, either directly or indirectly. Some of the lots have already been sold at auction and awarded to third parties.

In view of the long-standing pendency now of this case, and the failure of the Senate to act on House Bill No. 1666 and the letter of the Insular Auditor of October 4, 1935, answered by this Office on October 22, 1935, suggesting the taking of steps to execute the decision of this Department in this respect, this Office, through the Director of Lands, is taking steps to take possession of the lots in question with a view to selling them at auction.

#### **INDUSTRIALIZATION**

In view of the pending change in the Government of the Philippines which carries with it a radical departure in our trade

relations with America, the undersigned resumed the work on economic planning and industrialization that was started the previous year. The scientific machinery of the Department, through the Industrial Committee and other similar entities created by the undersigned since his assumption of office, continued with greater impetus the study on the industrial possibilities of the country. As a result the Department is now able to offer to any person or group of persons organized as industrial concerns, who may desire to undertake them, a list of industrial projects which have passed the scientific tests to which they have been subjected by the Industrial Committee of the Department. These projects, with accompanying detailed promotional sheets, have been referred to the National Development Company.

The following is a list of such projects with the estimated capital for each as figured out by the Industrial Committee in its promotional sheets, which may be furnished to anyone desiring them upon application to this Office.

LIST I

1. Manufacture of glass.....	₱90,000
2. Meat packing .....	300,000
3. Manufacture of clay products .....	110,000
4. Manufacture of cotton yarn .....	250,000
5. Sack making from abacá, maguey, and other fibers .....	300,000
6. Growing of derris .....	45,000
7. Growing of cinchona .....	450,000
 Total	 ₱1,545,000

The importance of each of the above-named projects is described as follows:

1. *Manufacture of glass.*—The demand for glass bottles in the Philippines is considerable, owing to the fact that the manufacture of aerated water is extensive. Our importation in 1933 in glass bottles alone was ₱261,334 and in 1934, ₱419,847. The estimated annual consumption of aerated water factories in the Philippines is 3,500,000 split bottles. The breweries and distilleries in the Philippines need 3,000,000 split bottles every year. This fact indicates an ample field for the establishment of a glass factory.

2. *Meat packing.*—Meat is one of the most common foods in the Philippines, and the need for the development of a meat-packing industry is obvious. Raw materials in the form of livestock are plentiful and can be easily increased due to our

facilities of raising animals. During the last ten-year period (1924-1933) the Philippines imported meat products worth ₱45,801,916. In cured ham alone we imported in 1933, 678,483 kilos, valued at ₱496,231 and in 1934, 525,769 kilos, valued at ₱507,877. The establishment of a meat-packing industry would make available this important item of food and other related foods, such as sausages, etc., in the Philippines and would considerably reduce the amount of money that we are sending abroad every year. It would also encourage the establishment of hog farms in the Philippines.

3. *Manufacture of clay products.*—The establishment of this industry is primarily intended to supply the needs of the Government in its projects of sewerage in the principal cities of the Philippines. The Bureau of Public Works has projects of sewer systems for the principal towns of the Islands involving millions of pesos of which 50 per cent will go on sewer pipes. The manufacture of a light roofing tile suitable for bamboo houses and serving as a possible substitute for nipa and cogon roofing, as well as of tile for roofing on strong material houses is being encouraged. The development of this industry would improve the living conditions of the masses, and greatly reduce the danger from destructive fires.

4. *Manufacture of cotton yarn.*—In a tropical country like the Philippines, cotton is the most suitable material for clothing. From time immemorial the Philippines has been importing cotton from abroad in increasing quantity. In 1933 our importation of cotton cloth and cotton manufactures was ₱26,263,250 and in 1934, ₱31,242,920. It is evident, therefore, that the cotton industry in the Philippines should be developed, and that we should start by manufacturing the cotton yarn that is needed by our present household cotton industries and by whatever factories may be established in the future. Last year the Philippines imported ₱1,044,156 worth of cotton yarn for use in the weaving of cotton cloth in the sections of the Philippines where weaving is the main industry. We should endeavor to supply the yarn that we need for this purpose, and it is for this that the amount of ₱250,000 is requested. The undersigned is certain that with such a start we will be able to develop in due time a cotton industry in the Philippines that will reduce our heavy importation of cotton cloth and its manufactures from abroad. The Bureau of Plant Industry is conducting an intensive campaign for the growing of cotton in order that there may be a sufficient supply of floss for the manufacture of yarn.

5. *Sack making from abaca, maguey, and other fibers.*—The Philippines at present imports annually 20,000,000 jute sacks from India, in spite of the fact that local materials are available for the making of sacks. Abaca, which at present is very cheap, and maguey, the growing of which is a dead industry, make excellent materials for sack making. Even jute can be grown here as well as in India. In Mexico sisal is planted extensively for manufacturing sacks for exportation to America and Europe. The Bureau of Plant Industry is now producing sacks at a very reasonable cost, but experimentation is still going on to develop a product that has the required strength and resiliency.

6. *Growing of derris.*—The Philippines imports considerable quantities of chemically prepared insecticides for plant pests and disease-control work to prevent the enormous losses in agricultural crops due to these pests every year. Derris is well adapted to our conditions, and because of the present demand for this product we are encouraging its planting on a commercial scale. The commercial production of derris powder can be pushed faster if machinery for grinding the roots into powder, the form best for marketing, is made available. The campaign for the commercial planting of derris can be pushed more rapidly if the farmers are assured of markets for this product. At present Japan and the United States are importing big quantities of derris products from Java and the Federated Malay States. They are our potential markets. The Philippines, too, is consuming considerable quantities of derris insecticides for fighting plant pests.

7. *Growing of cinchona.*—After years of experimentation the Bureau of Forestry has succeeded in demonstrating that the growing of cinchona in the Philippines can be made profitable, especially in view of the large demand for quinine.

Quinine as a commodity holds a position unique in the world, in that its price remains steady despite the general collapse in values. While quinine is considered a universal remedy for malaria and a necessary element for the preparation of various kinds of other medicines, its cost is so high as to be prohibitive to needy sufferers. It is estimated that in the Philippines there are about 2,000,000 cases of malaria, with 10,000 to 20,000 deaths every year, representing an estimated minimum economic loss to the country of about ₱5,000,000. Considering the economic as well as the humanitarian side of the question, the growing of cinchona in the Islands is of great importance, and the Government should take considerable interest in this work to

meet the local need in quinine, which is estimated to be 80,000 kilograms annually; that the development of this industry would help solve the present unemployment problem is another important point in its favor. As our average annual importation of this commodity is about 2,330 kilograms, the planting of 50 hectares to quinine in addition to the 11 hectares already planted falls far short from actual requirements; for in order to grow enough chinchona trees an approximate area of 3,671 hectares needs to be planted to produce annually 80,000 kilograms of quinine needed for the treatment of the 2,000,000 malaria cases, which, according to the Health authorities, occur annually throughout the Philippines.

This project is self-liquidating. As time goes on, the returns from the project may be used to develop and enlarge this important and very new industry in the Islands. This consideration covers only the money value of such a product, and does not include the invaluable benefit to the public, particularly the victims of malaria, and the utilization of marginal and sub-marginal lands now lying idle.

The following industrial projects which, obviously, are needed in the Philippines in view of our earnest effort to become self-sufficient, and for which there is a wide field owing to the availability of raw materials for manufacture, are recommended to the National Development Company for consideration and accomplishment. The amount appearing opposite each project is the estimated commercial capital required, as submitted by the Bureau of Science, which is now making a detailed study of these projects with a view to providing the National Development Company, or any private enterprise with industrial or promotional sheets as well as with other necessary scientific information for their development.

#### LIST II

1. Manufacture of canned goods and tin cans	₱200,000
2. Establishment of tanning industries and development of fisheries	250,000
3. Pulp and paper factory	500,000
4. Manufacture of soap, hydrochloric acid, sodium carbonate, and sodium bicarbonate	300,000
5. Manufacture of tanning extract and leather	100,000
6. Refining of gold	250,000
7. Industrialization of coconut products and improvement of copra	500,000
8. Establishment of a dairy industry	200,000
 Total	₱2,000,000

A brief summary of the importance and the objective of each of the above-named projects is given below:

1. *Manufacture of canned goods and tin cans.*—The manufacture of canned goods and tin cans is an important feature of the industrialization program of the Government, considering the great amount of canned goods of all kinds imported yearly from other countries, to the value of ₱7,174,480 in 1933 and ₱9,568,684 in 1934.

2. *Establishment of fishing industries and development of fisheries.*—The activities to be undertaken in connection with the development of the fishery resources of the Philippines are the following:

- a. The extensive preparation and dissemination of gourami.
- b. The establishment and maintenance of a banak hatchery.
- c. The **survey of important fishing centers.**
- d. The cultivation and dissemination of bullfrogs.
- e. Experiments on baños.
- f. Investigation and propagation of shell fish, shrimps, and lobsters.
- g. Artificial propagation and utilization of seaweeds.
- h. Acquisition of a motor boat, net, and gears for investigation and the **training of fishermen.**
- i. The continuation of the work already started at Estancia and Cata-balogan.
- j. The establishment of fishery stations at various strategic points in the Philippines.

3. *Pulp and paper factory.*—The Philippines imported wrapping paper to the amount of ₱325,955 in 1933 and ₱556,290 in 1934. Even old newspapers to be used for wrapping and packing have been imported to the amount of ₱188,109 for 1933 and ₱400,709 for 1934. The establishment of a paper factory would partially meet the local demand for wrapping paper.

A private concern has already completed study on the establishment of a factory to manufacture alpha cellulose from bamboo.

4. *Manufacture of sodium hydroxide, sodium carbonate, and sodium bicarbonate.*—The manufacture of sodium hydroxide or caustic soda together with sodium carbonate is very important for the development of present and future industries. The soap industry at present consumes nearly seven thousand tons of caustic soda, and with the establishment of pulp and glass factories in the near future larger quantities will be required. Caustic soda is imported largely from England and to some extent from America.

The raw materials used in the manufacture of caustic soda are common salt and limestone, both of which are locally produced.

5. *Manufacture of tanning extracts and leather.*—The forest of the Philippines abound in tanning-bearing trees from which tanning extracts could be made, not only for local consumption but also for exportation to leather-manufacturing countries that do not produce these trees, such as the United States, Japan, etc. At present there is only one company, the Philippine Cutch corporation, producing tanning extract from mangrove. All of this extract is exported to the United States and amounts to around ₱500,000 yearly. This industry is one of the very few the development of which will not mean competition for the established industries in the United States, as the latter needs for its use tanning materials grown in the Tropics.

The established tanneries in the Philippines do not produce leather of the same quality as the imported product and consequently cannot compete with the latter in local shoe manufacture. Upper leathers and other fine leathers are not yet being produced in the Philippines. Our importation of leather amounts to around ₱2,000,000 every year. The establishment of this industry in the Philippines will mean not only the improvement of the quality of local leathers but also the beginnings of a new industry, that of the manufacture of fine leathers for which raw materials are abundant in the Philippines.

6. *Refining of gold.*—In 1911 the Philippine Legislature approved Act No. 2738 carrying an appropriation of ₱100,000 for the establishment and operation of the mint of the Philippine Islands. Some equipment was bought but never used because the gold production amounted to only ₱250,000 which did not justify the establishment of a refining plant. In 1932 the gold production reached ₱10,003,200. The prospect of establishing a gold refinery by the Government is enhanced by the fact that the production of gold has increased to 10,584,923 fine grams of gold and silver bullion in 1934 and will be greater for 1935.

7. *Industrialization of coconut products and improvements of copra.*—The Philippines is a coconut-producing country; but the coconut industry has suffered a severe setback owing to the fact that coconut oil has lost its market in the world because of keen competition. It is, therefore, necessary for us to find new uses for coconut oil in order to improve and encourage

the planting of coco trees. The amount requested for this item is for the industrialization of products of coconut, such as soap making, butter making, mantecoco, and for medicinal purposes and other household uses. Machinery for this purpose is needed.

As to copra, it is a well-known fact that we are far behind the other copra producing countries in quality, due to our poor and crude methods of drying. For this reason the price of our copra is the lowest possible. The need of improving the methods of drying is imperative, and a part of the money requested for this item will be used for the purchase of copra driers to be placed in the more important coconut-producing centers of the Philippines.

8. *Establishment of a dairy industry.*—Dairy and dairy products, both as an industry and as a factor in physical upbuilding, are important in the life of any country. If the fact is added that there is being sent abroad a large amount of money for the importation of dairy farm products, the establishment of this industry in the Philippines becomes imperative. In 1933 we imported P4,491,882 worth of dairy farm products and in 1934, P5,822,687. The Bureau of Animal Industry has been studying this question, as well as the question of meat packing, during the last three years and has outlined a plan of promotion and development which in due time would enable the Philippines to supply her own dairy products. It is necessary that a start be made now in order that little by little we may be able to stop this yearly drain of money on this account.

The projects were submitted by the undersigned in a memorandum to His Excellency, the Governor-General, who, in a letter replying to same, approved in principle the plan embodied in this industrialization program. Nothing was done, however, to realize this plan because His Excellency adopted the policy of leaving all important matters, especially those requiring a large outlay of funds, to the new Government. The letter of His Excellency, the Governor-General, follows:

I wish to acknowledge and thank you for the copy of "Industrialization Program of the Department of Agriculture and Commerce" which you left with me on the 17th. A fast reading evinces the thought and effort which you and your coworkers have devoted to the subject.

Although many will view it as unfortunate, the Philippines, as you suggest, cannot remain a simple agricultural community; it must eventually become an economy which will include production of a part of its factory-made wants. We have seen in the past few years the peril of relying entirely on agricultural export staples as the source of national wealth. Our inability to influence prices of these commodities or to ele-

trol their marketability abroad are signals of danger. We have no reason to suppose that the drive towards nationalistic economy among our customers will immediately abate, or that we can escape the effects of their policies.

The world, generally, is reorganizing, concentrating, and nationalizing its economic households and, whether we desire it or not, we are obliged to a degree to harmonize ourselves with this trend. It is encouraging to know that our administrators and popular leaders, alike, are comprehending the new trend and preparing for the shifts in social and economic emphasis which the time demands.

Your paper is rich in suggestion and very stimulating. Again, I wish to thank you for it.

#### PURCHASE OF LARGE ESTATES OWNED BY RELIGIOUS CORPORATIONS AND OTHER PROPRIETORS

August 3, 1935, the Philippine Legislature passed Joint Resolution No. 2, authorizing the Governor-General, on behalf of the Government of the Philippine Islands, to enter into negotiations with the owners of certain estates in Manila, Batangas, Laguna, Bataan, Bulacan, and Rizal for the purchase of these estates. The motive that impelled the Legislature in proposing this purchase is embodied in Joint Resolution referred to above, as follows:

WHEREAS, the large estates which have remained in the hands of religious corporations and other proprietors have been and still are the main cause of serious agrarian controversies, to which may be ascribed to a great extent the discontent prevalent among the masses, and which provide a fertile ground for irresponsible and radical leaders to propagate communistic and subversive ideas against the constituted authorities;

WHEREAS, the only practicable means to end such controversies would be for the Government to purchase those estates and subdivide them into small parcels and then convey them to the actual occupants thereof;

WHEREAS, the experiment of the Philippine Government in this respect has proved a complete success;

WHEREAS, the Government of the Philippines is authorized under section sixty-four of the Act of Congress of July first, nineteen hundred and two, entitled "An Act temporarily to provide for the administration of the affairs of civil government in the Philippine Islands, and for other purposes" to purchase lands owned or held by associations, corporations, communities, religious orders, or private individuals; and

WHEREAS, it is the opinion of this body that the holding of large tracts of lands sought to be purchased herein injuriously affects the peace and welfare of the people of the Philippine Islands"; now, therefore,

*Be it resolved by the Senate and House of Representatives of the Philippines in Legislature assembled and by the authority of the same:*

That the Governor-General, on behalf of the Government of the Philippines, be, as he hereby is, authorized to enter into negotiations with the owners of the following haciendas and other haciendas which, in his

opinion, should be the subject of the operation of this Resolution, for the purchase thereof under such terms and conditions as would be advantageous to the Government, to wit: Lai Estate, Batangas; San Pedro de Tunasan, Laguna; Dinalupihan, Bataan; Buenavista, Bulacan; Buenavista, Bulacan; San Ildefonso, Bulacan; Hacienda Bachiran, Paranaque, Rizal; Capellama de Malabon, Rizal; Hacienda Esperanza, Dampalit, Malabon, Rizal; Hacienda de Sta. Mesa, Manila; Diliman, Manila; Hacienda Ana Sarmiento, Sungaiong, Manila; Legarda Estate, Sampaloc, Manila; Hacienda Mitra, Tondo, Manila; Hacienda Balot, Tondo, Manila.

*Resolved, further,* That the Governor-General be requested to submit to the Legislature as soon as possible the results of his negotiations, including such drafts of legislation as would be necessary to carry out the negotiations to completion.

Adopted, August 3, 1935.

August 8, 1935, His Excellency, the Governor-General, in Executive Order No. 826, which is quoted below, authorized the undersigned to carry out the purpose of the above resolution.

Pursuant to the provisions of Joint Resolution No. 2 of the Tenth Philippine Legislature, entitled "Joint Resolution authorizing the Governor-General, on behalf of the Government of the Philippine Islands, to enter into negotiations with the owners of certain estates in Manila, Batangas, Laguna, Bataan, Bulacan, and Rizal, for the purchase of the same," approved August 3, 1935, the Secretary of Agriculture and Commerce is hereby authorized to conduct preliminary negotiations with the owners of the estates specified in the said resolution and such other estates as may be referred to him by the undersigned with a view to their acquisition by the Government and the sale thereof to the actual occupants.

The Secretary of Agriculture and Commerce shall confer with the owners of the estates to ascertain if they are willing to sell their property to the Government, and the price and other conditions under which they will dispose of them. He shall secure copies of the tax declarations of said estates and shall gather data regarding the area, the kind of titles, the encumbrances thereon, if any, the occupants, the nature of their claims, if any, the improvements thereon, the owners of such improvements and their assessed and market value; and such other information as may be needed to enable the Executive Department to comply with the purposes of the Joint Resolution of the Legislature. Thereafter, he shall submit a report of his findings to the undersigned together with drafts of legislation that he may deem necessary to carry into effect the purposes of the resolution. He shall submit at least a partial report of the results of his investigation before the date when the Tenth Philippine Legislature resumes its present session.

The Secretary of Agriculture and Commerce is authorized to appoint a committee to assist him in discharging the duties imposed upon him in this order, and to call upon any other officials of the Insular, provincial, and municipal governments who are hereby directed to extend to him the necessary cooperation.

In order to accomplish the instructions embodied in this Executive Order, the undersigned issued General Memorandum Order No. 136, dated August 8, 1935, creating a committee to assist him in the investigation and in gathering data on friar lands and other estates. The said General Memorandum Order is as follows:

Pursuant to the provisions of Executive Order No. 826 of the Governor-General, dated August 8, 1935, a committee is hereby created composed of the Director of Lands as Chairman, and the Director of Plant Industry and the Provincial Assessor or the official acting in his place in the province where the land subject of inquiry is situated, as members, to assist the Secretary of Agriculture and Commerce in discharging the duties imposed upon him by said Executive Order. The said committee shall obtain certified copies of the tax declarations of the lands in question. They shall interview the owners thereof to ascertain whether they would be willing to sell their properties to the Government, the price they want, and the other conditions under which they will dispose of them. They shall also interview the occupants of the land, inquire into their claims and desires, determine the number of such occupants, and find out whether the conditions obtaining there make it advisable for the Government to purchase the land and dispose of it in small parcels to said occupants, as contemplated in Joint Resolution No. 2 of the Tenth Philippine Legislature. They shall look into the titles of the lands and the encumbrances thereon, if any. They shall gather information relative to the improvements, their assessed and market value, and such other data as may be deemed necessary to enable the Secretary to comply with the provisions of the aforementioned Executive Order No. 826. The Chief of the Friar Lands Division of the Bureau of Lands shall act as Secretary to the Committee. The Committee shall submit from time to time partial reports of their findings to the undersigned and their complete reports on or before September 15, 1935.

Assisted by this Committee, the undersigned personally conducted the necessary investigations and gathering of data upon which to formulate recommendations to His Excellency, the Governor-General, as required in his Executive Order. Several trips were made to the places where those estates are located in order to confer both with the owners and the tenants. Copies of the tax declarations of each estate were secured, as well as data regarding the area, the kind of titles, the encumbrances thereof, the occupants, the nature of their claims, the improvements thereon, the owners of such improvements, and their assessed and market values. The owners were interviewed in order to ascertain whether they were willing to sell their property to the Government and the price and other conditions under

which they were willing to dispose of them. The occupants or tenants of each estate were also interviewed in order to inquire into their claims and desires and to ascertain whether the conditions obtaining in each estate make it advisable for the Government to purchase the land and dispose of it in small parcels to these occupants.

In order to secure effective co-operation from the tenants, there was appointed in each estate investigated a committee of three persons selected by them; this committee was authorized to gather and transmit whatever information was necessary to the work of our committee, greatly facilitating our work. Preliminary reports were submitted to His Excellency, the Governor-General, from time to time as the investigation of one estate or a group of estates was concluded.

September 25, 1935, the undersigned submitted a summary report of the investigations of all the estates that had so far been concluded, comprising the most important haciendas enumerated in the resolution of the Legislature. The other estates mentioned in this resolution are of lesser importance, and there seemed to be no urgent need for their purchase. This report, therefore, with a draft of a bill regarding the purchase of these lands, terminated the work entrusted to the undersigned by His Excellency, the Governor-General. This report, summing up the work of the undersigned and his recommendations thereto, is as follows:

In compliance with Executive Order No. 826 authorizing me to confer with the owners of the estates to ascertain if they are willing to sell their properties to the Government and the prices and other conditions under which they will dispose of their properties, I have the honor to submit herewith a concise report on the conferences held with the representatives of:

- (a) The San Pedro de Tunasan Estate in Laguna belonging to the **Colegio de San Jose of the Jesuit Order**;
- (b) The Hacienda Buenavista in Bulacan belonging to the **San Juan de Dios Hospital**;
- (c) The Hacienda Dinalupihan in Bataan owned by the **Monte de Piedad and Savings Bank**;
- (d) The Leon Estate belonging to the Colegio de San Jose of the **Jesuit Order**;
- (e) The Bacalaran Estate belonging to the **Monte de Piedad and Savings Bank**;
- (f) The Capellana de Malabon Estate belonging to the **Roman Catholic Archbishop of Manila**; and
- (g) The Hacienda Mandatuyang belonging to the **Roman Catholic Archbishop of Manila**.

Briefly stated, the results of the conferences held are as follows:

**A. SAN PEDRO DE TUNASAN ESTATE—2,280.7023 HECTARES**

1. *Tenants' offer.*—The tenants propose the expropriation of the entire estate under Article 12, section 4, of the Philippine Constitution. An alternative offer is the sum of ₱500,000 for the entire estate.

2. *Owner's offer.*—The Colegio de San Jose of the Jesuit Order is willing to sell the estate at the present assessed value of ₱988,039.51, at which price, Mr. Carlos Young, who holds a contract of lease on the property, expiring on December 31, 1973, is willing to have his lease cancelled.

In my opinion the sum of ₱500,000 would be a fair price for this estate.

**B. HACIENDA BUENAVISTA—27,408.2692 HECTARES**

1. *Tenants' offer.*—The tenants' offer for the estate is ₱2,876,500 which is just a little over the assessed value in 1916.

2. *Owner's offer.*—The owner desires ₱4,000,000 for the estate. At this price and on the basis of the entire area of the estate amounting to 27,408.2692 hectares, the average price would be ₱145.94 per hectare.

Considering that there are 4,980 hectares of pasture land, 4,690 hectares of cogon land, and 7,857 hectares of forest within this estate, totalling 17,527 hectares which will not be of much use, leaving an area of 9,881.2692 hectares which may be disposed of to the tenants, the average price on the basis of the later area would be ₱404.82 per hectare.

This estate is assessed at present at ₱3,352,010, equivalent to an average of ₱122.30 per hectare. If we deduct the areas of pasture, cogon, and forest lands, amounting to 17,527 hectares, the average price would be ₱339.24 per hectare.

In my opinion the amount of ₱2,876,500 would be a fair price for the estate.

**C. HACIENDA DINALUPIHAN—4,150.9855 HECTARES**

1. *Tenants' offer.*—The tenants are willing to pay the following prices per hectare:

	Per hectare.
<i>(a) Sugar land:</i>	
(1) Class A .....	₱200.00
(2) Class B .....	150.00
<i>(b) Rice land:</i>	
(1) Class A .....	150.00
(2) Class B .....	100.00
(3) Class C .....	40.00
(4) Class D .....	5.00
	Per sq. m.
<i>(c) Townsite:</i>	
(1) Lots in commercial district.....	0.20
(2) Lots in residential district.....	0.12
(3) Lots in barrio district.....	0.06

At the preceding rates, the total offer would be ₱491,838 for the estate.

2. *Owner's offer.*—The owner is willing to sell the estate for ₱2,256,000. This rate on the basis of the area of the estate of 4,150.9855 hectares, represents an average cost of ₱513.40 per hectare.

The offer of the tenants is even less than the assessment in 1916.

In my opinion ₱1,000,000 would be a fair price for the estate.

#### D. LIAN ESTATE—7,654.4494 HECTARES

1. *Tenants' offer.*—The tenants have made no specific offer in view of the fact that they do not know the price at which the owner would be willing to sell. Past proposals to prospective purchasers were as follows:

In 1915, option to Roxas & Co., to purchase for ₱287,000.

In 1931, an offer to Angel T. Iñiguez to pay ₱80,000 per year for 20 years, equivalent to a cash payment of not more than ₱600,000.

2. *Owner's offer.*—The owner of the estate has fixed the amount of ₱1,249,840 as the price. This is, however, subject to the provision of a clause in the contract between the Lian Estate and Mr. Nelson Vance Sinclair, to the effect that "while this contract is in full force and effect, the Manager under equal circumstances shall be given the preference over persons other than tenants and aparceros of the Hacienda in buying such portions of the Hacienda which the owner may decide to sell," and as the contract will run until May 1, 1939, this provision will have to be taken into consideration when the final decision shall be made.

At the price of ₱1,249,840 and on the basis of the area of the estate of 7,654.4494 hectares, the average cost would be ₱163.29 per hectare.

In my opinion the amount of ₱600,000 would be a fair price for the estate.

#### E. BACLARAN ESTATE—37.8436 HECTARES

1. *Tenants' offer.*—The tenants offer to purchase the lots of the estate at the following rates:

(a) Commercial lots:	Per square meter.
(1) Gasoline Station .....	₱3.00
(2) Along main road .....	2.00
(b) Residential lots:	
(1) Along main road .....	1.50
(2) Along alleys .....	1.00
(3) Interior .....	0.50

At these rates, it is estimated that the tenants' offer would amount to ₱614,958 for the estate.

2. *Owner's offer.*—The owner desires ₱1,200,000 for this estate. At this rate and on the basis of an area of 37.8436 hectares, the average cost will be ₱31.7 per square meter.

In my opinion the amount of ₱615,000 would be a fair price for this estate.

#### F. CAPELLANIA DE MALABON ESTATE—140.7457 HECTARES

1. *Tenants' offer.*—The tenants are willing to pay ₱732,000 for this estate which on the basis of the area of 140.7457 hectares, represents an average cost of ₱0.23 per square meter.

2. *Owner's offer.*—The owner desires ₱1,000,000 for the estate, which on the basis of the area of 140.7457 hectares represents an average cost of ₱0.71 per square meter.

In my opinion ₱650,000 would be a fair price for this estate.

#### G. HACIENDA MANDALUYONG—2,1998 HECTARES

In addition to the preceding estates, the tenants of the Mandaluyong estate, situated in the municipality of Mandaluyong, Rizal, have requested that the Government purchase the estate which comprises an area of 2,1998 hectares. This property was assessed in 1914 at ₱11,110; in 1915 at ₱18,580; and in 1935 at ₱31,890.

1. *Tenants' offer.*—The tenants offer ₱1 per square meter at which rate their offer would amount to ₱21,998 for the estate.

2. *Owner's offer.*—The owner is not at this time in a position to quote a price on this area.

In my opinion the amount of ₱21,000 would be a fair price for this estate.

Summarizing the offers, together with my estimates of fair prices, we have the following:

Estates	Tenants' offer	Owner's offer	Estimated fair price
San Pedro de Tucasao	₱500,000.00	₱985,039.31	₱500,000.00
Bacoor, Cavite	2,374,500.00	4,600,000.00	2,875,000.00
Dasilupihan	401,368.00	2,256,000.00	1,600,000.00
Lia	600,000.00	1,249,840.00	600,000.00
Bacooran	614,058.00	1,200,000.00	614,000.00
Casa Laran de Malabon	322,960.00	1,090,000.00	650,000.00
Mandaluyong	21,998.00	5,000.00	21,000.00
<b>Total</b>	<b>₱4,927,454.00</b>	<b>₱10,698,879.31</b>	<b>₱6,262,500.00</b>

I believe that with the foregoing facts it is possible for Your Excellency to consider the propositions submitted by the tenants and the owners. The valuation mentioned by me as fair price for each estate has been arrived at after careful study and based upon my personal experience. In the meantime, the proposed bill for the purchase of the estates should, in my opinion, be acted upon and forwarded to the Legislature for approval.

#### IV. ACTIVITIES OF BUREAUS, SPECIAL DIVISIONS, AND BOARDS UNDER THE DEPARTMENT

##### SPECIAL OBJECTIVES FOR THE YEAR

At the beginning of the year the undersigned required the bureaus under the Department to submit a program of activities which are to be the special objectives of each bureau for the year. The importance of such a program is obvious. Without it each branch of the Department marches on throughout the year in a haphazard way. With a distinct course to follow, each bureau or office sets out at the beginning of the year with a definite goal. From the many items submitted by each bureau at the beginning of the year, the undersigned selected the most

important ones and embodied them in the following memorandum-letter to the bureau directors as constituting the special objectives of the Department for the year:

The following program of activities constitutes the special objectives of the Department of Agriculture and Commerce for 1935, selected from the respective lists submitted by each Director to this Office. Effort should be centered upon these activities and if it is necessary to shift the personnel of each bureau, the better to accomplish its particular program such readjustment should be made. Cooperation among the bureaus, where such cooperation is needed, and among all the officials and employees of the Department is enjoined. The duplication of activities pointed out in a previous communication on this subject must be avoided. I should like to be informed of the progress of this program and a monthly report of such progress should be made to this Office by each director. Copies of this program should be furnished the staff of each bureau concerned with its accomplishment.

#### BUREAU OF PLANT INDUSTRY

1. Extension of the cultivation of cotton so as to provide sufficient raw material for industrialization. The National Development Company is contemplating to promote this industry and the Bureau of Plant Industry must make every effort to produce the needed raw material.
2. Extension of the production of onions, potatoes, coffee, and cacao in regions where the soil and climate have already been found suitable to the growing of these plants as well as in other regions where planting is favorable. Every effort must be made to lessen the heavy importation of these products.
3. Production of wrapper and cigarette tobacco. Increase in the growing of wrapper and cigarette types of tobacco at as low cost of production as possible in order to enable the Philippines to compete with Sumatra, must be given impetus. It is a sad commentary that we have to import this raw material from another country when it can be grown here in sufficient quantities to supply the needs of the local tobacco industry.
4. Industrialization of abaca, maguey, coconut, and cassava. The manufacture of sacks, rugs, and other articles from abaca fiber, the manufacture of starch, gaplek, and flour as a household industry and the utilization of coconut and its by-products for industrial and household uses should be given impetus.
5. Experimentation on wheat-growing so as to determine the most suitable regions for this crop.
6. Intensification of the campaign against plant pests.
7. Systematic collection of accounts receivable.
8. Extension work so as to give the benefits of the service of the Bureau to the people.

#### BUREAU OF ANIMAL INDUSTRY

1. Establishment of a Dairy and Swine Project at Bonifacio Stock Farm.
2. Establishment of poultry and hog industries in the Philippines. The work on avian pest and hog cholera vaccines should be intensified.

3. Completion as soon as possible of the construction projects that have been started, such as the dairy plant, poultry houses, the water supply at the Bongabon Stock Farm, and the Swine and Poultry Station at Corridor.

**4. Systematic collection of accounts receivable.**

5. Extension work so as to give the benefits of the service of the Bureau to the people.

**BUREAU OF FORESTRY**

1. Land classification, both big projects and individual public land applications inspection.

2. Inspection of cutting areas of concessions and ordinary timber licenses.

3. Intensive patrol of timberlands to minimize if not entirely suppress illegal forest destruction (*cañín*).

**4. Investigation of forest claims and conflicts.**

5. Continuance of intensive and systematic campaign for the collection of forest fees and charges, especially back rentals on the use of forest lands.

6. Cooperative planting and reforestation projects started in various parts of the Islands.

7. Prevention of illegal occupation of public forest lands.

8. Detail of personnel in sawmills for the purpose of checking and collection of the necessary charges and fees.

9. Extension work so as to give the benefits of the service of the Bureau to the people.

**BUREAU OF LANDS**

1. Acceleration of investigations on applications pending approval so as to facilitate their disposal.

2. More vigorous and systematic campaign in the collection of overdue accounts.

3. Acceleration in the work of examination of registration expedientes in cadastral cases.

4. Prompt disposal of applications of homesteads and free patents.

5. Prevention of illegal leases and subleases of lands especially in Mindanao.

6. Extension work so as to give the benefits of the service of the Bureau to the people.

**BUREAU OF SCIENCE**

1. Research work and experiments aimed at making new commercial products from coconut oil.

2. Studies of clay roofing materials as a substitute for terra.

3. The manufacture of Chinaware from Philippine raw material.

4. Construction of semicommercial tannery and tanning-extract plant.

5. Manufacture of enamel ware (sheet and cast iron base).

6. Food preservation with a view to its possibilities for industrialization.

7. Studies and plans on the proper division and construction of the model type of a Filipino house.

8. Organization of clubs in the provinces.

9. Further studies on new Philippine raw materials for glass making.
10. Continuation of the topographical survey and the development of mining industries.
11. Geological survey of mineral districts of the Mountain Province, Nueva Ecija, Misamis, Surigao, Antique, Catanduanes Island in Albay, and Samar.
12. Study on the improvement of the Filipino diet.
13. Soil survey in cooperation with the Bureau of Plant Industry.
14. Extension work so as to give the benefits of the service of the Bureau to the people.

#### BUREAU OF COMMERCE

1. Vigorous collection campaign of Rice and Corn Fund accounts.
2. A campaign among Filipino business men to urge them to use Philippine products as premiums in special sales and combination deals at least during Made in the Philippines Products Week.
3. Surveys by Research and Trade Regulation Divisions to determine and remedy unfair methods of competition.
4. Readjustment in the work of the Trading Center so as to make it a sort of experimental marketing unit the goods handled to be reconditioned and made the nucleus of the aggressive advertising and sales promotion campaign.
5. More intensive educational campaign among cooperative associations and their memberships so as to place existing units on a paying basis.
6. Organization of Provincial Trading Centers throughout the Philippines.
7. Extension work so as to give the benefits of the service of the Bureau to the people.

#### WEATHER BUREAU

1. Climatic study of the provinces of the Philippines.
2. Scientific investigation of the paths of typhoons.
3. Charts showing the paths of typhoons by months.
4. Catalogue of baguios.
5. Extension work so as to give the benefits of the service of the Bureau to the people.

#### THE BUREAU OF PLANT INDUSTRY

The Bureau of Plant Industry reports that in its effort to accomplish the special objectives set forth in the above memorandum-letter, it was confronted by unusually destructive typhoons, droughts, and floods.

##### 1. DESTRUCTION OF CROPS BY TYPHOONS AND DROUGHTS

Plants, animals, and people suffered from the dry and hot weather. Palay, corn, tobacco, coconuts, abaca, and other field

crops gave poor harvests. The production of palay was about 16 per cent below that of last year, or only about 44,500,000 cavanas, due to the damages caused by the 1934 typhoons and the 1935 drought, although, as a result of the limitation of sugar-cane production, which has left plenty of land for planting to palay, a bigger area had been planted to palay during the 1934-1935 season than during the 1933-1934 season. The dry-season corn crop was about 40 per cent below normal. The drought, besides having rendered the transplanting of tobacco rather late, caused smaller crops, but with better quality because the dry weather was favorable to the curing of tobacco. The result was that the tobacco crop was about 50 per cent below normal, causing the price of tobacco to go up from 100 per cent to 300 per cent over last year's prices. Coco trees and abacá were very badly damaged.

The freak typhoons of April 6 did a lot of damage to the maturing dry-season palay in Tayabas, Albay, and Samar. The recovery of coco trees, which suffered from last year's typhoons was delayed, and a considerable number of trees were further damaged in the above-named provinces. Abacá, bananas, and fruit trees also suffered much damage. The regular rice crop of Samar, which was maturing at the time of the typhoon, was also damaged.

Good weather, with a well-distributed rainfall, prevailed during the last week of April and throughout the month of May, enabling the farmers to start in the preparation and planting of their fields. It brought relief to the standing crops which suffered from the dry weather of the past months. The rainy weather, however, was unfavorable to the harvesting of late-maturing dry-season palay, tobacco, and cotton.

## 2. DESTRUCTION OF CROPS BY PESTS

The campaign against locust infestation through the bounty system which was adopted last year was continued. Notwithstanding the campaign, the infestation this year was the worst in the last four years. As many as 353 municipalities in 28 provinces were infested. The campaign through the bounty system was successful only in the freeing of two provinces and 161 municipalities.

The policy adopted by the Cabinet in September, 1934, of placing the direct control over the eradication campaign in the

hands of the provincial and municipal executives was continued this year, with the use of the gratuitous services of workers under the Locust Act (No. 2472).

At present 192 municipalities in 26 provinces, covering 3,463 hectares, still remain infested. There were 3,994 cavans of locust eggs, 129,554 cavans of hoppers, and 47,561 cavans of flyers destroyed. Fifty thousand one hundred eighty hectares of rice, 2,792 hectares of sugar cane, 19,287 hectares of corn, 163,607 hectares of coco trees, and 3,604 hectares planted to miscellaneous crops were destroyed by the locusts.

The following is a comparison of the damage done to crops by the pests in 1934 and in 1935:

Crop	1934	1935
Rice	₱85,814.96	₱1,248,671.96
Corn	69,271.66	851,794.88
Sugar cane	81,294.02	1,223,876.35
Coco trees	16,579.50	67,484.32
Miscellaneous	100.00	4,680.51
Total	₱253,060.14	₱2,896,578.92

### 3. THE CROP SITUATION

*Palay.*—A bigger area was planted to this crop for the 1934-1935 season, due to the low prices of maguey, tobacco, coconuts, and abacá, and to the limitations imposed on sugar cane. In spite of this bigger area, however, the 1934-1935 rice crop was 15 per cent below the 1933-1934 rice crop, amounting to only about 44,500,000 cavans of palay, because of damages wrought by the typhoons of last year and the drought which followed these typhoons.

The 1935-1936 crop is expected to be even poorer, much less than the 1934-1935 crop, owing to the following contributing causes:

1. Less land was planted to palay in the locust-infested provinces.
2. The typhoon of April 6, 1935, badly damaged the regular rice crop in Samar which was then maturing, and the maturing dry season palay in Tayabas and Albay.
3. The drought in June and July delayed the transplanting of palay causing the seedlings to become overaged.
4. The August and September floods badly damaged the newly transplanted palay in Central Luzon, the Philippine rice granary.

The decrease in this year's production, however, will be made up by the increase in the area planted to the crop.

*Sugar cane.*—Because of the limitations on sugar which went into effect in 1934, the area planted to sugar cane was necessarily reduced. The area planted this 1935-1936 season, however, is greater because the amount allowable for export next year is greater than that for this year. While the area planted to sugar cane in the principal sugar-cane districts is being reduced, the area planted to sugar cane in northern Luzon is being increased. In northern Luzon sugar cane is being made into muscovado sugar, panocha, and "basi," a wine made from sugar-cane juice which is now enjoying a good price.

*Coco trees.*—Coco trees in Tayabas, Laguna, the Bicol Provinces, Samar, and Leyte were so badly damaged by the 1934 typhoons and the freak typhoon of April 6, 1935, that it is estimated that one-third of the present standing trees have not yet returned to their normal bearing capacity. Because of this damage to coco trees in the principal coconut producing provinces, coconut producers in Luzon were unable to profit by the high price of copra offered in the Manila markets in April, 1935. However, it is expected that the damaged coco trees shall have returned to their production by the next rainy season, barring further adverse climatic conditions.

*Tobacco.*—The acreage planted to tobacco during the 1934-1935 season was reduced because of the lack of encouragement to tobacco farmers as a result of the low prices prevailing during the previous year. Besides, the drought that followed the 1934 typhoons badly affected this year's crop, so that all in all this season's harvest was about only 60 per cent of that of the 1933-1934 season.

Nevertheless, the climate was favorable to the curing of tobacco, and the 1934-1935 crop was of very good quality. Because of the smallness of the tobacco crop, its good quality, and extensive commitments of exporters with European monopolies, this year's prices of the tobacco crop averaged about 200 per cent above those of last year. The production of cigarette, wrapper, and batek tobacco is gaining ground, and it is hoped that, with the Bureau of Plant Industry's diversification program, enough will be grown to cover entirely the importation of cigarette and wrapper tobacco.

*Abaca.*—The prices of abaca have been very low since 1934. Consequently, abaca plants blown down by the 1934 typhoons and the typhoon of April 6, 1935, were allowed to rot. Planta-

tions infested with the bunchy-top disease in Davao and Mindoro were cleared and planted to food crops. Many plantations were abandoned or neglected. The production of abacá from July, 1934, to June, 1935, was very low compared to that of previous years.

In July, 1935, however, the prices of abacá rose, and abacá producers again became interested in cultivating and caring for their plantations. Abacá strippers have been busy since then.

*Corn.*—Corn planted in the latter part of 1934 gave a good crop, in spite of typhoons. Corn planted in the rainy season was badly affected by the typhoons, the drought which followed, the locusts, and the corn borers, and a poor crop was harvested. The corn planted in October this year has a good stand. The price of corn, however, is high this year.

*Maguey.*—Farmers are losing hope of ever getting good prices for this crop, and since last year have been either abandoning their plantations from maguey or clearing them and planting food crops instead.

*Coffee and cacao.*—Coffee gave good production last year and this year, except in Batangas and the Bicol Provinces where this crop suffered from the effects of typhoons, drought, pests, diseases, and the dampy weather; due to the drier weather this year, cacao has improved very much and fruited heavily, except in Davao, where production was rather poor due to pests and diseases.

*Fruit.*—The year 1934 was a very poor year for fruit, as mangoes gave only a small yield and lanzones in Laguna only fruited sparingly. The prices of these fruits were naturally very high. Other fruits were very badly damaged by the 1934 typhoons.

This year, however, mangoes, lanzones, and other fruits were plentiful and sold at low prices. The dry and hot weather caused a profuse flowering of mangoes. Even banana and papaya trees gave good yields.

It is gratifying to note that the people are now becoming more and more interested in the establishment of home orchards and gardens.

*Vegetables.*—The storms of 1934 destroyed vegetables in the mountainous regions of Central Luzon, and the August, 1935, floods destroyed 40 per cent of the vegetables in Trinidad Valley in the Mountain Province and about 40 per cent in the low places of Central Luzon. The Ilocos Provinces, Cavite, and the Cagayan Valley, however, had good vegetable crops.

*Root crops.*—A bigger area was planted to root crops this year and a good crop was obtained, especially in Mindanao and the Eastern Visayas, where these crops were planted extensively instead of corn and palay, due to the locust menace.

Cassava is now becoming an important crop, and the area planted to this crop has increased considerably. In addition to the five-ton flour factory in Botolan, Zambales, and a 10-ton cassava-flour mill under construction in Bayambang, Pangasinan, in 1934, four old factories that had already stopped operations again resumed business with the help of the Bureau of Plant Industry. These factories are the Samal Starch Factory located in Nampieuan, Nueva Ecija; the Philippine Starch and Sugar Company located in Porac, Pampanga; the Causip Starch Factory in Naga, Camarines Sur; and the Naic Starch Factory in Naic, Cavite. Other new factories were established, one in Zambales, one in Jolo, one in Cagayan, Oriental Misamis, and two in Manila, all under the initiative of the Bureau of Plant Industry.

*Onions.*—Because of the floods and typhoons of 1934, 50 per cent of the 1934-1935 onion crop was badly damaged. This year's onion crop is expected to produce a much better yield, however. During the 1934-1935 season, 724 coöoperators in 36 provinces planted 1,000 kilos of onion seeds, covering an area of 364 hectares which gave a production of about 63,160 kilos of bulbs. The production would have been greater were it not for the typhoons of October and November, 1934, the drought early in 1935, and the destructive onion pests that damaged the crops.

For the 1935-1936 sowing campaign 1,500 kilos of seeds will be distributed, and it is expected that these will plant 500 hectares and produce 3,500 tons of onion bulbs. The provinces of Nueva Ecija, Batangas, Cavite, Pampanga, Laguna, Ilocos Norte, Ilocos Sur, Tarlac, and Pangasinan lead in the production of onions.

To push through the campaign, demonstrations on the growing of Bermuda onions were conducted, the most outstanding of which was the growing of this crop in rotation with lowland rice in Nueva Ecija. Records of a demonstration on onion-growing in Muñoz, Nueva Ecija, on unplowed rice fields show that on 2.5 hectares the planter realized a gross income of ₱2,160 with an expenditure of ₱659, thus obtaining a net profit of ₱1,591, or ₱636.40 per hectare. The result of this demon-

stration has been a practical and economical system of raising onions on a commercial scale.

*Cotton.*—Special drives are being conducted by the Bureau of Plant Industry for the purpose of supplanting as much as possible our importation of cotton. The cotton drive was started in 1932 and since then the area planted to and the production of this crop have increased every year. In the 1934-1935 cotton drive, 12,170.1 kilos were distributed by the Bureau of Plant Industry and planted in an area of 1,995.9 hectares, giving a production of about 113,932.4 kilos of clean cotton with seeds. Besides, about 940 hectares in Batangas and the Ilocos provinces were planted with locally grown seeds, and gave an estimated yield of 71,000 kilos of clean cotton with seeds. The total area planted to cotton, therefore, in the 1934-1935 cotton season was 2,035.9 hectares, giving a production of 184,932.4 kilos of cotton with seeds.

The 1934-1935 cotton crop would have been much larger were it not for the damage caused by typhoons in 1934 and the drought which occurred in the early part of this year. Between 60 and 70 per cent of the crop was damaged.

Oriental Misamis, Cavite, Lanao, Agusan, Pangasinan, Batangas, Ilocos Norte, Cebu, Ilocos Sur, and Occidental Negros are the first ten provinces, in the order mentioned, leading in the production of cotton.

For the season 1935-1936, 25 tons of seeds, calculated to plant more than 3,000 hectares, will be distributed. It is estimated that the production from this area will have a ready market, as it can readily be utilized by the Bureau's Cotton Mill and the Philippine Cotton Mills, Inc.

Of the cotton produced in the 1934-1935 season, the Bureau bought 39,447 kilos of cotton with seeds worth ₱6,500, for the purpose of encouraging the extension of cotton production and also for use in its cotton mill. The Philippine Cotton Mills, Inc., purchased about 44,733.62 kilos worth ₱7,157.40; and the two Japanese firms, namely, Daido Boeki Kaisha and Mitsui Bussan Kaisha, Ltd., purchased about 10,000 kilos. The rest of the cotton crop was used locally by weavers and spinners of the locality.

To enhance cotton production, the Bureau, with the approval of the undersigned, imported from the United States a small second-hand cotton mill which is now used in the industrialization of cotton. The Bureau's cotton mill was installed in Feb-

ruary, 1935, and its operation was started July 12 of the same year. Its normal capacity of about 200 kilos of yarn per week has been increased to 350 kilos by running the mill in two shifts—day and night. From 10 to 15 per cent of the yarn produced is turned into cloth.

By October 31, 1935, there had been produced for sale 4,155.4 kilos of cotton yarn valued at ₩4,155.40, and cloth valued at ₩135.72. These values do not include the cotton that is in the process of manufacture into yarn, and the yarn in the process of manufacture into cloth.

In due time this cotton mill will be modified so as to double its present capacity, improve its efficiency, produce not only coarse but also fine cloth, and to produce bleached and dyed cotton cloth.

It is also hoped that additional machinery may be set up in connection with this cotton mill, so that the production of absorbent cotton and cellulose from the short fibers discarded from the mill, the extraction of oil from the cotton seed, the manufacture of soap, and the hydrogenation of cotton seed oil for use in the production of edible fats may be made possible.

*Ramie.*—Ramie is now being commercially raised in Davao, either as a cover crop to abacá or a regular cash crop. It is reported that the Japanese farmers in Davao are getting more money from ramie than from abacá, as it sells at ₩18 a picul and the cost of production is as low as that of abacá. Thus, the Bureau is encouraging the growing of this crop in line with our diversification program, especially in regions of the Philippines where there is a well-distributed rainfall. A larger area is being planted to it in our stations than last year to provide seeds for distribution.

*Prices of farm crops.*—Prices of all farm crops this year are much higher than those of last year, except for fruits which are abundant. The price of rice rose from ₩4.35 to ₩5.20 per cavan for clean rice and from ₩1.95 to ₩2.15 per cavan for rough palay in April, 1935, to ₩7.70 to ₩7.80 for clean rice and ₩3.50 to ₩3.60 for palay in November, 1935. Sugar, coconut, coconut products, abacá, and tobacco enjoyed very good prices this year.

#### 4. AGRICULTURAL EXTENSION

The Bureau of Plant Industry continued with greater intensity its agricultural extension service which consists in giving information to the farmers by correspondence, demonstrations in

agricultural fairs and farmers' conference, direct consultation, and in extending aid to them by investigation and the solution of individual farm problems. Through this service the farmers learn of the activities of the Bureau, the results of its experiments, the latest developments in farm work in other countries, and scientific ways of developing and improving agriculture.

During the last two years and a half, a total of 434,770 farmers (174,363 in 1933; 72,349 in 1934; 188,058 in 1935) availed themselves of this service of the Bureau of Plant Industry in its various forms. A total of 15,489 farm investigations in 1935 as compared with 7,993 in 1934 were undertaken for the purpose of giving to the farmers advice on the kind of crops to grow, the improvement of culture through proper irrigation and drainage, proper cultivation and use of fertilizers, control of pests and diseases, and the diversification of crops for better income.

In order to acquaint the public with the work of the Bureau an Open House was held for the first time July 12, 1935. A large crowd visited the Bureau on that occasion, including legislators, Government officials, and the public in general. As a result, requests for information about farm work have been steadily increasing, and the public has become more acquainted with the work of the Bureau.

#### 5. PARTICIPATION IN AGRICULTURAL FAIRS AND THE FLOATING EXPOSITION

The Bureau of Plant Industry participated in the Second Agricultural-Commercial Exposition held in 1935 in connection with the Manila Carnival. Our exhibits were seen by 157,744 persons in 1935, as compared with 124,955 persons in 1934, which shows increased interest of the people in agriculture.

As in previous years the Bureau participated in fairs held outside of Manila. This year the Bureau had exhibits in 18 provincial and municipal fairs with a total attendance of 123,610 persons, as compared with sixteen provincial and municipal fairs held in different provinces of Luzon, the Visayas, and Mindanao in 1933, with a total approximate attendance of 113,210 persons; and 10 provincial and municipal fairs in 1934 with a total attendance of 98,191 persons.

The Bureau has two extension vans, so constructed as to be handy for agricultural exhibits in the different provinces. This

year these vans visited 24 municipalities only, because more fairs were participated in, and, on the other hand, there were less community assemblies where the vans might have been used for exhibits.

This year this Bureau also participated in the floating exposition of the Bureau of Commerce. It was estimated that 58,100 persons in 1935 saw the exhibits of the Bureau in the different ports of call. The floating exposition proved an effective means of extension propaganda. Considerable interest was shown in each port of call in the Bureau's exhibits, especially in those pertaining to household industries and in the crops recommended for diversification.

In this year's exhibits, including the Agricultural-Commercial Exposition in the 1935 Manila Carnival, the provincial and municipal fairs, the floating exposition, ₱695.02 was realized from the sales of seeds, plant materials, and agricultural products.

In all these fairs and exhibits lectures, demonstrations, and conferences with farmers were held on the use of better varieties, proper cultural practices, irrigation and drainage, liming and fertilization, control of pests and diseases, establishment of orchards and gardens, coöperative marketing, and rural improvement.

#### 6. PROMOTION OF FIBER INDUSTRIES

The Bureau is now making abacá sacks, market bags, rugs, bedspreads, and jusi cloth as a means of increasing the utility of the fiber products. Our abacá-sack-weaving campaign was instrumental in creating work for a considerable number of idle hands in the Bicol provinces. From January 1 to September 30, 1935, a total of 223,141 meters of abacá cloth valued at ₱8,140.17 was received from the Bicol provinces. Out of this material there were produced 46,380 sacks, 30,427 market bags, 51,930 meters of sack cloth for wrapping or shading purposes, and other miscellaneous articles, all of which had a total sales return of ₱11,339.84. The profit from such sales, after cost of material, freight, and labor was deducted, amounted to ₱1,665.07, which demonstrates that abacá-waste materials can be industrialized at a profit.

A law was enacted by the last Legislature appropriating ₱150,000 for the establishment of an abaca- and maguey-sack factory. This factory will encourage private investors to go

into the business of sack making and reduce our annual importation of 20 million jute bags and revitalize the moribund abaca and maguey industries.

A weaving and silk-production campaign is also being conducted by this Bureau for the production of jusi cloth, towels, bedspreads, rugs, hats, and silk. To revive this industry, an appeal was made to the provincial governors to interest their people in home weaving by sending pensionados to this Bureau to learn the art of weaving. As an inducement, this Bureau offered to lend looms to each province interested. Samar, Leyte, Sulu, Ilocos Norte, Ilocos Sur, Cebu, and Tayabas Provinces responded by sending pensionados to this Bureau. The weaving of abacá rugs, bed spreads, towels, jusi cloth, and other textiles has been taught to them. Five of these pensionados have now returned to their respective communities to encourage people there to engage in the weaving industry. We contemplate another important project in this connection; namely, the weaving of split-abacá cloth. The quality of the product is such that it will be able to compete with the best imported linen.

#### 7. ROOT-CROP UTILIZATION

The project on root-crop utilization was started April 15, 1934, with the object of doing away with the present importation of starch through the industrialization of cassava and other root crops. The successful demonstration of starch and gapplek manufacture as a home industry and the wide publicity given to this work have aroused public interest, so that at present there are sixteen factories and a large number of persons and institutions interested in the manufacture of cassava starch and flour.

#### 8. RURAL IMPROVEMENT WORK

Rural improvement work was started in 1932 with the object of improving the conditions of the rice tenants in the Central Luzon Provinces, who, due to the depressed state of the rice market and the resulting pitiful conditions, were discontented and easily stirred by professional agitators. At the beginning of 1935, eight units had been organized, covering 12 barrios in 4 municipalities of Bulacan and Nueva Ecija and 443 co-operators. The rural improvement work was conducted in the form of a contest between co-operators in the improvement of their respective lots, and the winners given prizes and diplomas at Gapan, Nueva Ecija, May 27, 1935. Prizes will also be

awarded the winners at Baliwag, Bulacan, and Boñabong, Nueva Ecija.

#### 9. HOME AND COMMERCIAL ORCHARDS

The development of home and commercial orchards has been carried on for several years. During this year about 12,944 fruit trees consisting of seedlings, budded, marcotted plants, and rooted cuttings were planted under the supervision of the provincial and district agronomists.

For the improvement of fruit trees in private orchards, 29,357 trees were pruned; 12,315 grafted; 11,678 budded; 4,601 marcotted; 4,280 fertilized; and 58,892 treated for the control of pests and diseases under the extension workers' supervision. A total of 533 holes were blasted with dynamite for fruit-tree planting in places too hard or too rocky for ordinary farm implements. This work was done for private coöperators who paid the cost of the dynamiting materials used.

#### 10. PROVINCIAL AND MUNICIPAL NURSERIES

Provincial and municipal nurseries, financed by the provinces or municipalities concerned and operated under the supervision of the fieldmen of the Bureau of Plant Industry, served as sources of seeds and plant materials necessary for our crop diversification, orchard and garden development, and rural-improvement campaigns. The nurseries also served as grounds for demonstrations on the approved methods of plant propagation.

At present there are 15 provincial and 5 municipal nurseries actually operating, producing seeds and plant materials for distribution to the farmers.

#### 11. RELIEF AND CROP REHABILITATION WORK

Every year relief and crop rehabilitation work in provinces damaged by typhoons, floods, or pests and diseases are carried on by this Bureau. This year relief and rehabilitation work were conducted in 21 provinces to avert food shortage and to help the farmers save their damaged crops.

The Board of Relief created under Act No. 4160 distributed 2,253.6 cavans of rice and corn, 9,834.16 kilos and 1,896 packets of vegetables, and other seed materials valued at ₱13,371.49. The campaign for food rehabilitation work was extended to 61,590 inhabitants, mostly indigent farmers.

A series of lectures on food production were also given to the Reserved Medical Force to prepare them for emergency in case of typhoons, floods, or other calamities.

#### 12. CROP PRODUCTION COST SURVEY

This work was actually begun in 1933, when a committee was formed for the purpose of studying the cost of production of the principal crops grown in the Philippines. The cost of production survey on rice, the first to be undertaken, was finished last year. This year the survey on the cost of production of copra in the 13 leading coconut provinces was started. Among the more important findings made in this survey were the following:

1. Although coco trees are ever-bearing, their production of nuts varies with the season. Production is highest in the third quarter of the year, followed by the second, and lowest in the fourth quarter.

2. The average nut production per tree per year is 34, or 4,369 nuts per hectare per year.

3. The "upahan" method of drying copra is the most widely practiced in the principal coconut producing provinces. About 70.8 per cent of the nuts harvested are dried in this manner. The copra-drier machine is used to a very limited extent.

4. The cost of production of copra varies among the coconut producing provinces, depending upon the management. The average copra production per hectare per year is 1,292 kilos or 20.4 piculs, and its average cost of production is 92 pesos distributed as follows:

a. Operating expenses	7.11
b. Administration expenses	1.11
c. Marketing expenses	1.11

In addition to the activities described above, the Bureau of Plant Industry continued with its routine activities, especially in connection with the improvement of plants. Numerous propagation stations continued without abatement. Fertilizer experiments were also continued with the result that better varieties, especially in the case of rice, are being produced. Research work was continued in connection with the planting of vegetables, covering an acclimatization study, various seasonal planting tests, selection of strains and long-day tests. Among the vegetables that underwent research were artichokes, asparagus, beans, beans, celery, broccoli, sweet potato, cauliflower, calabash, flower eggplants, Irish potatoes, onions, soy beans, taro, turnips, and pepper.

The work on the intensified. Speci- insects, mango in- coco leaf miners.

As in the preced- of Animal Indust-

(a) The contro- male with biological over the Islands f- of infection, and These activities ha- eases, thereby per- stock population.

(b) Investigat- manufacture of bi- of such diseases.

(c) Promotional- try by encouraging domestic animals breeds of our farm produced tangible of improved types.

(d) Industrializ- on the manufac- different styles, by if not better than. interest in the pre- cial purposes or h-

Rinderpest -A atypical manifes- grow, in which 78 the discover of the spread of the dise- was placed under

Fool-and-mouth disease occurred in and in a very mi- the number of de-

The work on the study of insects that affect our crops was intensified. Special attention was given to the studies on cotton insects, mango insects, citrus insects, vegetable insects, rice pests, coco leaf miners, and the locust pests.

#### THE BUREAU OF ANIMAL INDUSTRY

##### 1. LIVESTOCK CONDITIONS

As in the preceding year the principal activities of the Bureau of Animal Industry during 1935 consisted of:

(a) The control of epizoötics by general vaccination of animals with biologics, extensive and intensive scouting work all over the Islands for the purpose of detecting and locating foci of infection, and the adoption of necessary control measures. These activities have prevented serious outbreaks of animal diseases, thereby permitting the growth and increase of our livestock population.

(b) Investigations and research on animal diseases, and the manufacture of biological products for the prevention and control of such diseases.

(c) Promotional work on the livestock industry of the country by encouraging the production of more improved breeds of domestic animals. The efforts of the Bureau to develop the breeds of our farm animals by upgrading the native stocks have produced tangible results, as evidenced by the fact that animals of improved types may be found everywhere in the Islands.

(d) Industrialization of animal products. The experiments on the manufacture of animal products, particularly hams of different styles, by means of which finished products similar to, if not better than, imported commodities, have aroused popular interest in the preparation of meat products either for commercial purposes or home consumption.

##### 2. CONTROL OF EPIZOÖTICS

*Rinderpest.*—A sporadic outbreak of what appeared to be an atypical manifestation of rinderpest occurred in Occidental Negros, in which 78 cases were registered with 38 deaths. Upon the discovery of the infection necessary steps to control the spread of the disease were taken and, as a result, the infection was placed under control shortly after its appearance.

*Foot-and-mouth disease.*—During the year foot-and-mouth disease occurred in the provinces only more or less sporadically and in a very mild form, so that recovery was very rapid and the number of deaths negligible. There were registered 2,790

cases of the disease in cattle with 2 deaths, and 67 in carabaos with 4 deaths. The foot-and-mouth disease situation has improved markedly since last year, due, undoubtedly, to the strict enforcement of quarantine and the careful handling of animals from infected provinces.

*Anthrax*.—A total of 212 cases of anthrax in carabaos and 2 cases in cattle were reported from five provinces. As a control measure, about 18,789 head of carabaos, 753 head of cattle, and 26 sheep were given the simultaneous prophylactic treatment against this disease.

*Hæmorrhagic septicemia*.—This disease is known to be widely prevalent all over the Islands. From 22 provinces in Luzon, Visayas, and Mindanao, 687 cases in carabaos and 56 cases in cattle were reported, with 582 and 28 deaths, respectively. The policy of letting the owners of the animals shoulder the cost of the vaccine injected into their animals as a preventative measure against this disease was continued. During the year about 4,075 head of cattle and carabaos were vaccinated.

*Other diseases*.—Other prevalent animal diseases reported from the different provinces of the Islands were tuberculosis, surra, glanders, Texas fever, infectious abortion of swine, hog cholera, rabies, tetanus, nodular disease, distomatosis, ascariasis, stephanuriasis, avian pest, fowl cholera, roup, fowl pox, and black head. Control measures against these diseases were undertaken as far as the funds and personnel of the Bureau permitted.

*Meat inspection*.—The Bureau of Animal Industry has continued its coöperation with the Bureau of Health, City of Manila, and municipal and provincial governments in conducting meat inspection for the protection of the public health. However, great handicaps were encountered through lack of quarantine stations where cattle coming from infected places could be quarantined or held before they were slaughtered. In the City of Manila about 444,035 head of animals of different kinds were inspected and slaughtered during the period covered by this report, of which 142,659 were passed and 1,374 condemned.

### 3. RESEARCH WORK

The investigations and research of the Bureau in animal diseases were confined to those already started during the previous year. Some of these were completed during the year under review while others are still in progress. Research work on

minor problems of immediate practical value, however, has been conducted whenever possible with the means available.

Research on different diseases that has been completed and has been or will soon be published is as follows:

1. Glycerinated rinderpest vaccine, formerly formalized rinderpest vaccine. (**In press.**)
2. Possibilities of purifying dry rinderpest vaccine. (**Manuscript is being prepared.**)
3. Rinderpest antigen in organs of recovered animals. (**Manuscript under preparation**)
4. **A vaccine against fowl cholera.** (**In press.**)
5. Susceptibility of native carabao to experimental tuberculosis. (**Published.**)
6. Successful isolation of two strains of infectious abortion of swine. (**Completed; the papers under preparation.**)
7. Some organisms found in the lymph glands of rinderpest cattle used in the preparation of vaccine. (**Papers under preparation**)
8. Bacterial contents of raw and pasteurized milk from the Alabang Stock Farm. (**In press.**)
9. Complement-fixation test for hemorrhagic septicemia. (**Will soon be completed.**)
10. Anaplasmosis and piroplasmosis. (**Completed and will soon be published.**)
11. Single-cell transmission of surra. (**Published.**)
12. *Lymantria philippinensis*, an intermediate host of *Fasciola hepatica* in the Philippines with some observations on the bionomics of the parasites. (**In press.**)
13. Observations on natural cases of kidney-worm infestation with special reference to a practical method of diagnosis. (**Published.**)
14. The cattle tick pest in the Philippines, its control and eradication. (**Published.**)
15. The life history of the Australian cattle tick under Philippine conditions. (**Published.**)
16. Haemorrhagic ulnaritis in cattle (a new disease). (**Published.**)
17. The biology of *Lymantria philippinensis*. (**Will soon be completed.**)
18. Test for pregnancy in mares and cows. (**Completed, will be published.**)

Several other pieces of research on different subjects are in progress and reports will be published as soon as they are completed.

#### 4. PROMOTIONAL WORK IN ANIMAL HUSBANDRY

The work of the Bureau of Animal Industry in developing and improving the breeds of our animals has been and is being done, as in the previous years, through its different stock farms and breeding stations; namely, The Alabang Stock Farm, Alabang, Rizal; Cebu Breeding Station, Cebu, Cebu; Batangas

Breeding Station, Batangas, Batangas; La Carlota Stock Farm, La Carlota, Occidental Negros; Bon-gabon Stock Farm, Bon-gabon, Nueva Ecija; Dumaraao Stock Farm, Dumaraao, Capiz; Ubay Stock Farm, Ubay, Bohol; and Corregidor Poultry-Swine Station, Fort Mills, Corregidor.

Different projects have been in operation in these stock farms and breeding stations. The most important are the horse project, in which purebreed Arab stallions were imported from India and used for breeding purposes; the cattle project, which, among other activities, includes the experiments on the introduction of dairy breeds of cattle, such as the Red Scindi cattle and the grade Ayrshire-Nellore cattle; the buffalo project by which purebred Indian buffaloes have been raised both for draft and for milk; the small animal project, which has been carried out to encourage the raising of more sheep, goats, swine, rabbits, and other small animals of better types; the poultry project, which was inaugurated with a view to encouraging the breeding and raising of domestic farm fowls. Purebreed animals of different kinds that may suit local climatic and pasture conditions were imported from abroad and are being raised as purebred or used for cross-breeding with the native stocks.

#### 5. INDUSTRIALIZATION OF ANIMAL PRODUCTS

Upon the setting aside from the funds appropriated under Act No. 3953 (Industries Fund) of the amount of ₱15,000 for use in the experiments on the manufacture of meat and milk products, the Bureau of Animal Industry was able to purchase additional equipment and raw materials needed for the purpose. Hams, mostly of Chinese style, have been cured no longer on a small scale but on a semicommercial basis, and were disposed of as fast as they could be manufactured. This product has received favorable commendation from the purchasing public and, while some slight defects have been observed, it is believed that these defects could be remedied in the course of further studies and investigations. The important experiments conducted by the Bureau in the industrialization of animal products, which have been started and are in progress, are as follows:

##### MEAT

1. Determination of the dressed yield of native hogs.
2. Determination of shrinkage of native pork during refrigeration.
3. Shortening the process of making Chinese-style ham.
4. Different cures for pork products.
5. Making different domestic sausages.

6. Prevention of molds attacking finished meat products.
7. Preservation of eggs.
8. Canning of corned beef.
9. Manufacturing native dried beef or "tapa."

#### MILK

1. Preliminary survey of the butter-fat content of milk from the different dairy farms.
2. Making of soft cheese.
3. Making of hard cheese.
4. Canning of fresh milk.

The following figures show the meat and milk products manufactured by the Bureau during the year:

- 3007 Chinese style hams.
- 17 American style hams.
- 16 picnic hams.
- 12 cans boneless ham.
- 17.75 kgs. boneless ham.
- 43.44 kgs. bacon.
- 350.34 kgs. first class lard.
- 695.65 kgs. sausages.
- Milk products in limited quantities.

#### 6. ADMINISTRATION

The administrative functions, such as the maintenance and beautification of buildings and premises, carpentry work, repairs and movements of motor vehicles, recording of personnel, coursing and transmittal of correspondence, preparation of orders, rules, regulations and legislations, purchase of supplies and materials and keeping of property, supervision over the library and publications, and other work of administrative nature, were performed by the different units under the Office of the Director.

### THE BUREAU OF FORESTRY

#### 1. LUMBER INDUSTRY

*Lumbering activities.*—The lumbering activities of the so-called small licensees and sawmill operators continued to progress during the year, although prices were still below those prevailing during the peak year of 1929. The total cut during 1935 up to September 30 was 1,340,569.71 cubic meters, as compared with 1,650,974.49 cubic meters cut during the whole year of 1934. This increase in cut may be attributed to increased demand for Philippine logs and sawn lumber in foreign markets.

*Investment.*—At the end of October of this year, there were 106 sawmills and one logging operator operating with an aggre-

gate investment of approximately ₱27,380,500, as against 108 sawmills and logging operations with a corresponding investment of ₱27,459,000 in 1934.

*Foreign markets.*—From January 1 to August 31 of this year there were 96,275,560 board feet of lumber and timber shipped to foreign countries, as compared with 71,804,824 board feet for the corresponding period in 1934, or an increase of 34 per cent. Of this amount, 66,239,824 board feet were in the form of logs. Shipment of Philippine logs to foreign countries, particularly to Japan, China, and Australia, is on the upward trend. Philippine woods are becoming more popular, especially in Japan where builders are introducing Philippine lumber in the construction of Japanese homes and where new uses of **Philippine woods are being sought.**

The United States, however, remained the largest consumer of Philippine sawn lumber. The bulk of the shipments consisted of lauan, known in the trade as Philippine manogany. However, demand for special hard woods for veneer purposes has arisen lately promising to bring in considerable additional trade if properly developed.

Other important markets for Philippine lumber and timber during the year were South Africa and the United Kingdom. These markets are steady consumers of Philippine woods.

*Local markets.*—Slight improvement in the local markets with slightly better prices than those prevailing last year was noted during the period covered by this report. Despite the large production of the mills, no heavy stock of lumber was left at the end of October. The higher prices of copra and hemp, the payment of the sugar processing tax, and the typhoons contributed in creating a better demand for lumber and timber in the local markets.

*Grading and lumber inspection.*—Up to September 30, 1935, there were 1,527,162 board feet of lumber and timber inspected, as against 2,376,465 board feet inspected during the same period in 1934, or a decrease of 35 per cent. The inspection fees charged by the Bureau for this work totalled ₱1,868.14 as compared with ₱1,999.34 for the corresponding period in 1934. The decrease was due to the smaller number of logs sealed from private lands, from which fees are being collected. Actual grading work this year was really more active than it was last year, as shown by the fact that there were 629,614 board feet of

lumber, with a corresponding inspection fee of ₱935.41, graded during the period, as compared with only 126,353 board feet, with an inspection fee of ₱215.04, for the corresponding period in 1934.

## 2. UTILIZATION OF FOREST PRODUCTS

*Ordinary and gratuitous licenses issued.* A total of 7,604 forest licenses were issued as against 6,373 granted in 1934, or an increase of 1,231 licenses. Of this number, 1,606 were ordinary timber licenses; 2,163 ordinary minor forest products licenses; 2,241 private gratuitous licenses; 81 public gratuitous licenses; 66 miner's gratuitous licenses; 689 permits to transport second and lower groups timber for personal use; 20 ordinary wild plant dealer's licenses; 28 gratuitous wild plant dealer's licenses; 14 special wild plants permits for educational or scientific purposes; 3 collector's wild plants licenses; and 693 permits to transport wild plants for personal purposes.

*Minor forest products license agreements.* There were in force two minor forest products license agreements. One, held by the Philippine Cutch Corporation, collects mangrove barks for cutch. The other, held by Mr. Guillermo Z. Villanueva, collects mangrove firewood for local consumption.

*Free use.*—There was a considerable increase over last year in the utilization of timber under the free use privilege. This increase was principally due to the great demand for the first, second, and lower groups timber, especially in places where typhoons and fires caused much destruction, and also to the increased demand for timber for mining purposes in development work.

*Number of forest licenses issued by nationalities.*—Of the 1,606 ordinary timber licenses issued up to September 30, 1935, 1,527 were granted to Filipinos; 49 to Americans; 11 to Chinese; 7 to Japanese; 1 to Englishmen; 4 to Spaniards; 1 to Norwegians; 1 to Germans; 1 to Filipino-Americans; 1 to Filipino-Japanese; 1 to Filipino-Chinese; and 2 to Filipino-Spaniards. Out of the 2,163 ordinary minor forest product licenses issued, 2,052 were granted to Filipinos; 29 to Americans; 62 to Chinese; 10 to Japanese; 5 to Spaniards; 2 to Englishmen; 2 to Norwegians; and 1 to Germans. The number of licenses issued to foreigners has been gradually decreasing owing to the restrictive proviso of Act No. 3674, known as the Quirino Reciprocity Law.

*Extent of forest areas granted under ordinary timber licenses.*—Of the 2,016,056 hectares of forest land covered by ordinary timber licenses, 1,454,060 hectares are being operated by Filipinos and the rest by Americans and foreigners, distributed as follows: Americans 181,693 hectares; Chinese 139,580 hectares; Japanese 36,825 hectares; Englishmen 38,860 hectares; Spaniards 6,000 hectares; Norwegians 20,000 hectares; Germans 12,500 hectares; Filipino-Americans 700 hectares; Filipino-Japanese 5,000 hectares; Filipino-Chinese 3,000 hectares; and Filipino-Spaniards 5,338 hectares.

*Forest products cut, collected, and invoiced.*—The total timber cut and collected from the public forests during the nine-month period was 1,223,283.18 cubic meters, as against 1,644,308.29 cubic meters for the whole year of 1934. Of this amount, 1,132,022.02 cubic meters were cut for industrial and commercial purposes; 85,635.64 cubic meters for mining purposes; 759.02 cubic meters for public works; and 4,868.50 cubic meters for private or domestic purposes.

The minor forest products gathered and removed were as follows: 1,47,640.65 cubic meters of firewood; 11,892.66 cubic meters of charcoal; 845,742.50 kilos of tanbark; 20,178,303 kilos of cutch; 12,079.50 kilos of gogo; 12,740 kilos of dyebark; 966 kilos of salago; 1,206,173.25 kilos of Manila copal; 59,552 kilos of Manila elemi; 10,396 kilos of dipterocarp resin; 4,209 kilos of oleo resin; 1,297,389.35 kilos of split rattan; 3,196,411 linear meters of unsplit rattan; 1,304 kilos of cabo negro; 78,409.28 kilos of diliman; 21,104 kilos of hingiw; 26,862 kilos of kamagsa; 406,311 pieces of bohos; 13,338 kilos of buri leaves; 923.50 kilos of buri fiber; 1,600,663 kilos of nipa leaves; 62 kilos of unrefined beeswax; 2,150.20 kilos of refined beeswax; 101,691.50 kilos of lumbang kernels; 299,526 kilos of lumbang nuts; 162 pieces of lumber for table tops; and 2,897 protected wild plants.

*Forest charges.*—Forest charges collected up to September 30, amounted to ₱1,466,790.01, as against ₱1,676,172.83 collected during the previous year. Forest charges pending collection amount to ₱516,352.02. Steps have been taken to accelerate the prompt collection of the forest charges on these pending cases.

*License bond deposits and fees.*—The total amount of license cash-bond deposits on hand September 30, 1935, was ₱250,586.25, as against ₱261,814.64 in 1934. Bond deposits forfeited in favor of the Government amounted to ₱16,143.97, while

₱7,176.46 was refunded. Since 1920, when this Bureau began to require licensees to have cash-bond deposits, a total of ₱248,918.89 has been forfeited.

The total amount of fees collected on ordinary and gratuitous licenses as well as on collector's and dealer's licenses for the collection and sale of protected wild plants during the period was ₱16,287.30.

### 3. FOREST RESEARCH

With the 34 new projects started this year, the total number of research projects on record since 1905 is 222. Of these 44 had been published, 19 are ready for publication, 146 are in the process of preparation, and 13 were dropped. The reports of these projects, including important research papers in forestry journals, were properly classified, indexed, and filed by subject matter and author.

*Silviculture.*—In the experimental nursery at Los Baños, Laguna, no new improvement had been introduced.

The amount of planting stock on hand was 58,880 seedlings and 14,786 ornamentals. There were distributed without charge 3,749 forest-tree seedlings and 6,667 ornamentals. A total of 1,117 plants valued at ₱115.24 were sold.

There were collected during the year 3,691.826 liters of seeds. Of these, 973.78 liters were distributed in the Philippines, 36.52 liters sent to foreign countries, 1,197.206 liters sown in nurseries, 753.64 liters sold, 97.83 liters condemned, and 632.85 liters on hand. There were received from various countries 17,366 liters of exotic seeds. The number of exotic seedlings on hand was 4,538.

The work in the experimental plantations consisted of the survey and location by plane table of 7,665 trees in 28.06 hectares; the planting of 3,931 native and 411 exotic seedlings; and the growth measurements, both diameter and height, of 1,274 trees.

Thinnings and salvage cuttings were conducted during the year and 326 trees were removed, producing 141.45 cubic meters of firewood, 10.45 cubic meters of posts and poles, and from the larger sized trees a total of 3,147 board feet were sawn into lumber.

*Dendrology.*—The trees along the trail from the Forest Park Camp to the Mud Spring, representing 20 species, 19 genera, and 17 families, have been labeled. The important species found in and about Fort Wm. McKinley were studied, iden-

tified, and labeled. The plants labeled consisted of 65 species, 64 genera, and 32 families.

*Forest entomology and pathology.*—The insect collections now contain 13,828 specimens, representing 1,280 species. Of the total collection, 6,670 specimens representing 620 identified species were mounted and stored in 182 insect boxes and 44 rickers.

There are at present 104 species of fungi in the collection. Control work to wipe out fungi attacking young plants in the forest nursery was carried on.

*Timber physics.*—Information on the strength of different woods for building and bridge constructions and for use in the mines, from engineers, building contractors, house owners, miners, etc. was given.

On the study of the leaching properties of wood, four species were added to the four already tested. *Hopea plagiata*, one of the woods under study, has the characteristic property of imparting a dark-red color with bitter and astringent taste. This study is being carried on for the determination of woods suitable for liquid or alcoholic drink containers.

During the year a penetration test was started in coöperation with the Department of Military Science and Tactics of the University of the Philippines. The object is to find out the depth of penetration on some of our woods by bullets from the U. S. Army rifle or automatic pistol with .45 caliber at various ranges. It appears, so far, that in a given range the penetration may vary in inverse proportion to the weight of the wood.

*Durability tests.*—Some of the durability tests have not been inspected due to shortage of personnel. The durability tests on the shingles of tambuian, untreated and creosoted blocks for resistance to marine wood borers, creosoted apitong piles, creosoted American woods and untreated Philippine woods, woods treated with zinc meta arsenite, timborite, puksanay, Sole's wood preservative, creosite and masonite boards, and species from Mount Makiling were continued.

*Wood preservation.*—No new wood preservative was tested during the year. All the wood samples treated with wood preservatives that had been under observation were examined.

*Industrial investigation.*—Studies have been made on various uses of wood, such as for carriage shafts, duck pins, tool handles, and baseball bats. Requests for information on friction blocks,

ship decking, and inlaying for chess boards were also received and answered.

Dao and yellow narra have found use in the United States for veneer, and there is a big demand for these species. Several requests for information on the party that can supply dao for veneer have been received from firms in the States.

*Wood technology.*—There were received for identification, 305 wood samples from various parties consisting of officials of the Government, firms, and private individuals. In addition to these, there were over 2,000 pieces, consisting of logs, structures, wooden curios, duck pins, etc. identified outside of the office. The manuscript of the bulletin on woods will be finished by the wood technologist in the early part of 1936.

There were made 133 negatives and 300 prints to illustrate the grains and other characteristics of wood, including test pieces removed from the testing grounds, photomicrographs, and reproductions.

*Minor forest products.*—Some studies on medicinal and poisonous plants have been conducted. Studies on *derris*, totaquaia from barks harvested from the plantations at Bukidnon, tannin from *Quercus*, and other studies have also been made. Two members of the Bureau were sent to the field to conduct studies on *Almaciga* in order to remedy the destructive method of tapping. The fuel value of some species has been given to various entities interested in firewood. The study on charcoal has been continued.

#### 4. REFORESTATION

*Regular projects.*—There were no new projects started because the allotment available for labor hire was barely enough for the maintenance of the seven existing projects. The great bulk of the work was confined to the maintenance of the nurseries and plantations, care of seedlings, and a little planting. As in the previous year, the great handicap in the reforestation projects was the uncertainty of the appropriation available. At the beginning of the year pending the receipt of the available funds, the work in all the projects had to be suspended. This was a serious drawback considering the fact that the important work of watering seedlings, weeding, sowing, etc. could not be delayed.

There were handled in the seven reforestation projects a total of 3,329,381 liters of seeds. Out of this amount, 1,447,502 liters

were sown, 49.46 were distributed free of charge, 195.82 were condemned, 978.00 were sown direct on the plantations, 180.05 were sold, and 478.549 were left in stock at the end of the year.

There were 424,695 seedlings handled during the year. From this number 129,087 were planted, 135,216 died and were condemned, 22,232 were given free, 765 were sold, and 137,395 were left in the nursery at the end of the period.

The total area planted this year is 110,653 hectares, of which 31,995 are newly planted, 17,152 replanted, and 61,506 were seeded directly.

The area of the established plantations is now 978.155 hectares, of which 352.22 hectares are fully stocked.

*Cooperative planting.*—Many of the coöperative planting projects of the Bureau with private and other Government entities were discontinued during the year, due to the lack of funds on the part of the entities concerned and the lack of available men on the part of the Bureau. The important projects which were continued are as follows: Bontoc, Mountain Province; Hacienda Mercedes, Rosario, La Union; Intiway Creek, Malaybalay, Bukidnon; Philippine Packing Corporation, Bukidnon; Government Center of Malaybalay, Bukidnon; Public Grounds of the Province of Antique; Osmeña Waterworks, Cebu; and Mambucal Summer Resort, Occidental Negros. In these projects, 17,984 seedlings were planted and 138,591 liters of seeds sown.

##### 5. FOREST VIOLATIONS

A considerable increase in forest violations was detected among licensees and nonlicensees, due to the inadequate funds and personnel available to carry on the necessary patrol work and license inspection. Up to September 30, 1935, there were reported 547 cases of violations by licensees and 4,067 cases by nonlicensees, or a total of 4,614, as against 2,597 in 1934. The regular and additional forest charges involved in the former amounted to ₱50,288.13, as against ₱64,205.80 last year.

*Illegal kaingin.*—Illegal kaingin making caused, as in previous years, a great deal of forest destruction. There were detected 2,362 cases of illegal kaingin covering an area of 2,274.51 hectares of public forests, with forest products destroyed amounting to 138,583.34 cubic meters of timber, 4,628.50 cubic meters of firewood, 105,900 pieces of boho, in addition to other minor forest products. The total amount of regular and additional forest charges lost to the Government is conservatively

placed at ₱223,715.45, as compared with ₱425,359.65 in 1934. Many more cases escaped detection by forest officers because the Bureau was handicapped by lack of men and insufficient funds to defray the traveling expenses for the necessary patrol work. There continued to be received from many municipalities complaints regarding the lack of municipal funds for the maintenance of prisoners convicted of kaingin making and for insolvency in the payment of court fees.

#### 6. TIMBER SCALING

Despite the inadequacy of personnel available for sealing work during the year, the amount of timber scaled in 1935 was more than that of last year. From January 1 to September 30, 1935, there were sealed 1,235,066.06 cubic meters of timber with corresponding forest charges of ₱1,474,647.27, as compared with 1,516,982.69 cubic meters with forest charges of ₱1,393,381.06 in 1934. Of the 107 sawmills and power logging operations in force during the year, 69 had permanent sealers, 9 were visited only periodically by forest officers, and the rest, or 29, had no sealers at all. This Bureau knows from actual experience that more forest charges would accrue to the Government if all the timber cut by the various licensees and sawmill operators were sealed by forest officers and not left to be manifested by the operators themselves. There was a marked increase of activity in sealing in Manila. There were sealed 22,933.77 cubic meters of timber with corresponding forest charges of ₱46,989.76 from January 1 to September 30, 1935, as compared with 23,763.10 cubic meters with forest charges of ₱56,216.93 for the whole year of 1934. Check-sealing work was continued, but due to the limited number of men trained in this line of work, six districts remained without check-scalers during the year.

#### 7. NATIONAL PARKS

During the period under review, three national parks, containing an aggregate area of 4,705.2928 hectares, were proclaimed by the Governor-General, as compared with four parks with an area of 29,337.0765 hectares proclaimed last year. These make a total of 10 national parks set aside to date under Act No. 3915, with a total area of 42,570.0393 hectares.

There were recorded in the Makiling National Park alone, up to the end of the third quarter of the year, 6,576 visitors, as against 5,578 for the corresponding period of last year.

Eight ordinary timber, nine minor forest products, three special, two public gratuitous permits were issued during the year inside the national parks.

The amount of ₱1,511.82, representing the unexpended balance in 1934 from the actual collection from the use of the national parks, was allotted to cover salaries, wages, and sundry expenses during the year. To this sum was added the amount of ₱1,885.79 as income from January 1 to September 30, 1935. Of this sum, ₱2,398.62 had already been spent, leaving a balance of ₱998.99.

#### 8. SUPERVISION OF LOGGING OPERATIONS

The diameter-limit rule in every concession area was rigidly enforced within permanent timber lands. This is necessary in order to leave a sufficient number of seed trees in logged-over areas to take care of future regeneration.

The fires which occurred in some logged-over areas during the year were caused by sparks emanating from donkey engines and locomotives not provided with efficient spark arresters. Fortunately, most of the areas burned were potential agricultural lands and little real damage was done to young forest growth.

#### 9. LICENSE INSPECTION AND PATROL WORK

Up to September 30, 1935, there were inspected 374 ordinary timber-license areas and 77 ordinary minor license areas, as compared with 676 ordinary timber and 184 ordinary minor licenses for the whole of 1934. As a result of patrol work, the Government has been able to realize every year considerable revenue from timber and minor forest products illegally cut from the public forest. The decrease of forest fires in the Philippines is also due to patrol work. It is hoped that, with the employment by the licensees of concession guards for patrol work under the direct supervision of this Bureau, forest officers in the field may be sufficiently re-enforced and forest violations considerably reduced.

#### 10. FOREST SURVEYS

Only one survey under the standard of the Bureau of Lands has been undertaken. This is the survey of the proposed Cinchona Forest Reserve in Kaatoan, Bukidnon, which was begun in the latter part of September, and may last until the end of the year. Under the Bureau of Forestry standard there were taken

by the field personnel 2,791 indices involving 9,698.36 kilometers of field notes and 1,063.52 hectares of forest valuations as against 3,206 indices, 10,638.61 kilometers, and 1,075.49 hectares in 1934.

There were prepared under the standard of the Bureau of Forestry technical descriptions for 483 cases involving 1,011 blocks with 25,185 corners, as against 305 cases involving 589 blocks with 15,655 corners in 1934. There being no finished survey under the standard of the Bureau of Lands, no computation under this standard has been made.

*Reconnaissance.*—A reconnaissance in Mount Banahaw and a more intensive one in Mount Makiling were undertaken during the period. The reconnaissance in Mount Banahaw was spent in a rapid exploration of that part of the reserve bordering Sariaya, Tayabas, for the purpose of studying the feasibility of putting the area under a system of management similar to that in Mount Makiling. About 4.5 kilometers of trail notes were taken and the corresponding sketches prepared. In addition, three camp sites were located for the use of forest officers and the public. Botanical collections consisting of 120 species were gathered and sent to the Bureau of Science.

In Mount Makiling the application of the line-plot method was tested in connection with the summer camping work of the students of the School of Forestry. Sixty-nine single preliminary plots were laid out and all the merchantable trees thereon measured.

#### 11. FOREST LAND REGISTRATION CASES

There were received during the period 884 cases for registration, covering 2,029 parcels having an aggregate area of 12,793.52 hectares, as against 1,049 cases, covering 2,260 parcels with an area of 16,611.69 hectares last year. Of the 884 cases, this Bureau filed opposition to 77, covering 117 parcels with an area of 3,248.54 hectares, as compared with 65 cases, covering 239 parcels having 7,814 hectares of last year. Including the 241 parcels pending hearing last year, 358 parcels were handled this year, covering a total area of 53,211.51 hectares. Opposition to 86 parcels with an aggregate area of 2,905.70 hectares were withdrawn by this Bureau because the areas involved were found better fitted for agricultural purposes than for forest purposes. With two parcels adjudicated to the applicants and eight parcels declared public lands by the court, a total of 96

parcels with an aggregate area of 4,723.56 hectares, were disposed of during the year, leaving a balance of 262 parcels with a total area of 48,487.95 hectares of ordinary land cases pending hearing.

There were received 93 cadastral cases of 33,069 lots having an area of 162,419.64 hectares, as compared with 73 cases of 38,200 lots and 84,866.42 hectares of last year. Of these cases, the Bureau of Forestry entered opposition, through the Office of the Solicitor-General, against the registration of 13,430 lots with an aggregate area of 80,755.45 hectares, as compared with 21,210 lots and 69,077.30 hectares last year. The Province of Misamis Oriental with 17 cases of 14,428 lots with an area of 38,821 hectares, leads the other provinces in the number of cadastral cases taken up this year. Isabela comes next with eight cases involving 5,496 lots with an aggregate area of 52,933 hectares. During the period covered by this report, 5,743 lots with an aggregate area of 43,739.92 hectares were disposed of, leaving a balance of 54,896 lots with an area of 483,275.64 hectares of cadastral cases pending hearing at the beginning of the Commonwealth Government.

A total of 211 copies of court decisions, orders, motions, etc., regarding ordinary and cadastral cases, were received during the period, as compared with 130 copies received in 1934.

#### 12. FOREST RESERVES AND SPECIAL FORESTS

Eleven forest reserves with an aggregate area of 163,420.3622 hectares were established during the year, as compared with seven containing a total area of 5,161.7054 hectares in 1934. Thirty-nine reservations for purposes other than forestry, involving 6,153.12 hectares, were surveyed and certified during the year, as compared with 37 reservations containing 18,707.07 hectares last year.

#### 13. COMMUNAL FORESTS

A total of 138 parcels of communal forests with a total area of 14,625.66 hectares were established, 126 parcels containing an area of 22,923.09 hectares were amended, 13 parcels having an area of 1,830.55 hectares were cancelled, 235 parcels in 83 municipalities were suspended, 121 parcels were inspected, and 14 parcels were opened to commercial exploitation. No communal forest was closed to cutting this year.

Up to November 14, 1935, the number of parcels of communal forests is 1,812 with an aggregate area of 255,525.42 hectares. At present, out of the 1,215 municipalities and municipal districts only 776 have communal forests.

#### 14. COMMUNAL PASTURES

Sixteen parcels of communal pastures with an area of 2,054.625 hectares were established during the year, as against three parcels containing an area of 429.95 hectares of last year.

Up to November 14, 1935, the number of parcels of communal pastures is 49, with an aggregate area of 11,041.87 hectares located in 29 municipalities in 12 provinces.

#### 15. SPECIAL USE PERMITS

*Special use-permit applications.*—There were received 1,150 applications for special use permits on forest lands, as compared with 990 in 1934. Of these, 488 were for residence, 309 for pastures, 96 for nipa and bacauan plantation, 93 for reforestation, 54 for fishponds, 33 for camp sites, 25 for salt works, 8 for sawmill sites, 8 for logging camp, 4 for rights-of-way, 3 for lumber yards, 1 for a sanatorium, and 28 for miscellaneous purposes. These, together with the 3,260 applications pending at the beginning of the year, make a total of 4,410 applications handled during 1935. Out of this number, 1,515 cases have been disposed of, leaving 2,895 pending at the beginning of the Commonwealth Government.

*Special use permits in force.*—There were in force 1,928 permits and leases covering 34,288.15 hectares of forest lands as against 2,100 covering 33,638.13 hectares in 1934. Of these, 316 were new permits and 1,612 extensions or renewals. There were cancelled 488 permits, as compared with 782 last year. Up to November 14, 1935, Filipinos held 95.64 per cent of the number of permits, Americans 2.72 per cent, and other foreigners 1.64 per cent.

There were received 1,186 *kañgin* applications which added to the 9 applications pending for action at the beginning of the year make a total of 1,195 applications handled, as compared with 1,698 last year. Of these, 1,158 applications were acted upon, leaving 37, the reports of which have not yet been received, pending action at the beginning of the Commonwealth Government.

The total kaingin permits in force was 873. Of these, 823 were new and 53 renewals, covering an aggregate area of 2,383.54 hectares. Of the applications approved, 694 cover land inside public forests and 182 involve lands within leases and homesteads.

*Rentals.*—Among the activities included in the program of the Department of Agriculture and Commerce for 1935 the intensive campaign for the collection of rentals, especially back accounts, for special uses of forest lands, was included. Satisfactory progress along this line was made by the Bureau of Forestry as shown by the fact that during the year ending October 31, 1935, the total collection for rentals and fees for these special uses amounted to ₱28,013.27. In addition, there were collected ₱1,521 as cash-bond deposits.

Fifteen cases of collection of long overdue accounts were referred to the provincial fiscals. Of these, two involving ₱675 were decided by the courts in favor of the Government, two involving ₱108.68 were settled extrajudicially, two are pending in the courts, and the rest are pending action by the provincial fiscals. Of the cases pending in the previous year, three involving ₱493 were decided by the courts this year in favor of the Government, judgments of the courts on four cases involving ₱548.80 were executed, and four other cases involving ₱411.80 were settled extrajudicially.

#### 16. PUBLIC RELATIONS

*Addresses.*—There were delivered 560 talks by the Bureau personnel in different parts of the Islands in connection with Bird and Arbor Day and other occasions with hearers numbering 143,971 people, as compared with 117 talks and 17,156 hearers last year. Fourteen speeches were given in Manila, one of which was broadcast over KZRM, Radio Manila. Students visiting the museum of the Bureau were given lectures on various phases of forestry by the technical personnel of the Bureau. Likewise, students visiting the Forestry campus at Los Baños, Laguna, were given lectures by the faculty of the School of Forestry and by the personnel of the Division of Forest Studies and Research.

*Publications.*—The publication of the "Makiling Echo" was continued. Copies were distributed to all forest stations, lumber concessions in the Philippines, forest schools and forestry institutions, and lumber and trade journals in the United States, Europe, and the Far East, as an exchange publication.

Seven editorials and 155 news items on forestry were published in different papers, besides eight articles on forestry written by members of the Bureau and eight by outsiders.

*Extension service.*—The Bureau of Forestry participated in the 1935 Carnival—Commercial and Industrial Fair—in conjunction with other bureaus under the Department of Agriculture and Commerce. In the provinces seven similar participations by our field men were made in local fairs.

There were 658 memorial trees planted by distinguished persons, among whom were the Governor-General, Vice-Governor-General, President of the Senate, Speaker of the House, prominent legislators, and department secretaries as against 36 last year. Memorial tree planting was the principal feature in the celebration of Bird and Arbor Day in all parts of the Islands. In Manila this year's celebration was most significant in that the highest insular and city officials together with prominent civic institutions such as the Boy Scouts, Pioneers of the Philippines, etc., took active part in the observance of the day.

A traveling exhibit of forest products was prepared for the Bureau's participation in provincial fairs. This exhibit consisted of the following materials: Indoor and baseball bats, crystal cutch, brea, totaquina, quinine sulphate, ground bark, aumaciga resins, gutta-percha, cabu-negro ropes, lumbang seeds, almaciga fossils, beeswax, canela bark, different kinds of hand specimens, rattan samples, tannin content of some Philippine barks, chaulmoogra seeds, quinine seeds, lumbang oil, raffia fiber, buntal fibers, pagat-pat root, cinohona bark, and posters, statistics on forest resources of the Philippine Islands, data on minor forest products, land classification graph, and organization chart of the Bureau of Forestry. The exhibit has been sent to Tuguegarao, Cagayan; Tacloban, Leyte; Cagayan, Oriental Misamis; Ilagan, Isabela; Dumaguete, Oriental Negros; Claveria, Cagayan; and Ayuñgon, Oriental Negros.

#### THE BUREAU OF LANDS

##### 1. ADMINISTRATION OF PUBLIC LANDS

*Applications.*—Interest in the acquisition of public lands during the last few years had waned, due principally to the financial depression obtaining in the country as well as in other parts of the world. However, it is expected that an increase will be noted in the number of new public land applications beginning with the current year. The following table shows the number

of public land applications for 1934 and 1935, 1935 being up to October 31 only:

Kinds of applications	1934	1935
Homestead	6,959	5,962
Free patent	2,115	1,866
Sales	2,186	2,081
Lease	384	287
Revised permit	237	209
 Total	 11,881	 10,405

Efforts were exerted during the year to approve as many of the pending applications as possible. Up to the date of this report, 34,535 applications remained unapproved, notwithstanding our drive. It has not been possible to reduce the number of applications pending approval in view of the rapid increase of new applications filed and the slackening of the preliminary investigation work in the field due to lack of funds. Moreover, a great many of applications pending approval are involved in claims and conflicts still pending determination. It may, however, be stated that new applications can now be approved or rejected, as the case may be, as fast as preliminary investigation reports are received from the field; excepting of course those applications involved in claims and conflicts still pending determination, those covering lands that require the certification of the Bureau of Forestry, the Bureau of Public Works, and other branches of the Government, and those in which the applicants failed to comply with certain requirements, such as the payment of fees, publication, or survey deposits, or other obligations.

The following is a comparative statement of the number of public land applications approved during 1934 and 1935, the latter only up to October 31:

Kinds of applications	1934	1935
Homestead	5,661	3,967
Free patent	1,351	1,142
Sales	766	595
Lease	88	72
Revised permit	217	146
 Total	 8,078	 5,922

*Issuance of patents.*—Much attention has been given since the beginning of this year to the issuance of patents. The granting of titles to homesteads, free patents, and sales applicants who

have already complied with the requirements of the law regarding payments, cultivation, etc. being of great benefit both to the Government and the applicants concerned, every possible means under the law has been resorted to for the purpose of expediting the issuance of patents and, if possible, of surpassing last year's record of 7,011 patents issued, the largest number so far in the history of the Bureau of Lands. The task, however, is not an easy one, owing to the following handicaps:

1. The great number of applications ready for patent which had accumulated in previous years and which had to be dug up from the files.

2. The suspension of cadastral surveys necessarily reduced the number of surveyed homesteads, free patents, and purchases. Consequently, we have to depend mostly for our materials in the issuance of patents on isolated surveys.

3. There are only 42 transit parties in the whole archipelago. At the rate of 10 surveys every month, assuming that their work is continuous, not more than 5,040 surveys can be executed by them, this including lease surveys, reservations, etc., which are not counted in connection with the issuance of patents.

4. Reduction in the allotment for sundry expenses necessarily affected the number of final investigations and surveys that may be made.

In spite of these difficulties, however, it has been possible to issue up to date 5,928 patents which, as the following table will show, compare favorably with the number of patents issued during the corresponding period in 1934:

Month	1934	1935
January .....	520	740
February .....	703	626
March .....	463	710
April .....	520	514
May .....	815	562
June .....	454	569
July .....	549	523
August .....	750	716
September .....	750	565
October .....	841	403
November .....	673	.....
December .....	478	.....
<b>Total .....</b>	<b>7,011</b>	<b>5,928</b>

*Other actions on public land applications.*—During the year a total of 4,508 public land applications were rejected, and

2,402 approved applications were cancelled for various reasons: either because the land applied for was not open to disposition, or the applicant was disqualified to acquire public lands, or the applicant had failed to comply with the requirements of law and regulations, or because of other reasons.

The following is a summary of the actions taken during the year as compared with those taken in 1934:

Action	Number of applications		Area in hectares	
	1934	1935	1934	1935
Received	11,881	10,405	168,7236 4068	149,891 8316
Approved	8,078	5,922	108,649 8147	77,718 8049
Rejected	5,160	4,085	132,872 9623	118,641 6,429
Canceled	2,892	2,492	13,470 3,011	34,577 5,298
Patented	7,611	5,928	73,468 7378	64,581 2,623

*Collections.*—The Bureau has also given much attention this year to the collection of payments for fees, rentals, etc. on public lands. The efforts that have been exerted along this line have been amply rewarded by a considerable increase in our public land collections since the beginning of this year. Starting with January, when the collections were almost twice those of the same month of the preceding year, collections every month have always been greater than those of the corresponding month last year. The total collection in 1935 up to October 31 was ₱458,714.66, as compared with ₱433,747.95 for the full year of 1934.

*Auction.*—There were less parcels of land auctioned off this year than in the preceding year in view of the suspension of actions on applications covering lands in Mindanao. For the purpose of certification to the Office of the Secretary that no alien is interested in a particular parcel of land ready to be disposed of, it has been necessary to delay the auction pending receipt of additional information from the district or the provincial land office.

*Classified areas.*—During this year a total of 131,844.3106 hectares in different parts of the Islands have been declared alienable and disposable under the provisions of the Public Land Law. Such portions of these lands as may still be vacant should be subdivided and declared public land by the Court before they are thrown open to settlement. This is in line with the policy of making the distribution of public lands as econom-

ical and speedy as possible, the piece-meal method of disposition of public lands heretofore followed being expensive and cumbersome. With the subdivision of lands and the settlement of titles thereto before they are open to occupation, numerous claims and conflicts can be avoided and much can be saved in investigation and survey expenses.

*Public land investigations.*—The public land investigation work of the Bureau was greatly curtailed during the year for lack of funds. The allotment for this work has been very inadequate, as hardly one-half of the funds given to the district and provincial land offices in previous years is now made available. The effect of this reduction can very well be seen after an examination of the accomplishments of the different land districts. While the men have been patriotic enough to go on working even if they received only a portion or none at all of the per diems to which they are entitled, it is too much for the government to require them to pay their own expenses in conducting investigations. For this reason, the public lands inspectors have either been compelled to take their accrued leave or retained in the office to attend to work that does not entail traveling expenses.

## 2. ADMINISTRATIVE SETTLEMENT OF CONFLICTS, LAND REGISTRATION, AND OTHER LEGAL WORK CLAIMS AND CONFLICTS

*Orders of investigation and reinvestigation.*—The following table shows the total number of orders of investigation and reinvestigation issued during 1934 and those issued during the current year until October 15, as well as the number of reports returned during the same period for being defective or incomplete:

	1934	1935
Orders of investigation .....	1,314	1,600
Orders of reinvestigation .....	90	173
Reports returned for being defective or incomplete .....	116	238

*Disposition of claims and conflicts.*—There were 4,010 decisions rendered by the Director of Lands during the year (until October 15) as compared with 3,462 decisions rendered in 1934.

*Disposition of motions or petitions for reconsideration.*—The number of orders granting or denying request for reconsideration as well as the number of orders suspending the effects of decisions, orders, execution of final decisions during the year

1934 and the present year up to October 15th, is shown in the following table:

	1934	1935
Orders granting requests for reconsideration of decisions and ordering reinvestigation	140	155
Orders dismissing requests for reconsideration of decisions	204	234
Orders suspending effects of decisions	85	115
Orders of execution of decisions	67	58

*Appeals to the Department.* From January 1 to October 15, 1935, there were 210 decisions of the Director of Lands appealed to the Department as compared with 178 appealed in 1934.

The following comparative table shows how the decisions brought on appeal were disposed of by the Department:

	1934	1935
Affirmed	68	77
Reversed or modified	25	15
Remanded for reinvestigation	16	15
Pending resolution	69	103
<b>Total</b>	<b>178</b>	<b>210</b>

### 3. LAND REGISTRATION

*Cadastral proceedings (Acts Nos. 2259 and 3327).*—From January 1 to October 15, 1935, there were 14 petitions sent to the Solicitor-General for the institution of cadastral proceedings as compared with 66 sent in 1934. The petitions filed in 1935 involved 12,564 lots containing an aggregate area of 38,209 hectares while the petitions filed in 1934 involved 49,889 lots with a total area of 193,361 hectares.

*Cadastral cases decreed in 1934 and 1935.*—The following table is a comparative statement of the number of cadastral cases, including the number of lots and the area in hectares involved therein decreed in 1934 and the present year until October 15, 1935:

	1934	1935
Number of cases	14	29
Number of lots	9,312	19,548
Area in hectares	58,891	71,833

*Compulsory registration proceedings (Sections 50 and 85, Act No. 2877).*—Under the provisions of sections 50 and 85 of Act No. 2874, as amended, there were filed during the period covered by this report 29 petitions for compulsory registration involving 52 lots containing an aggregate area of 7,916.2654 hectares, as compared with 55 similar petitions filed in 1934 involving 225 lots with a total area of 9,641.8423 hectares.

*Orders of investigation of lands surveyed for registration purposes.*—The following table shows the number of orders of investigation of lands surveyed for registration purposes issued each year for the last four years and the number of orders issued from January 1 to October 15, 1935. The purpose of these orders was to determine whether the applications for registration of such lands as contained more than 24 hectares each should be opposed or not:

Year	Number of orders
1931	534
1932	400
1933	151
1934	145
1935	68

*Examination of registration "expedientes."*—During the period covered by this report there were 415 applications for registration and confirmation of titles to lands examined, as compared with 717 applications examined during the preceding year. This examination of registration "expedientes" is done by the Bureau to forestall the undue registration of public lands in the names of private parties.

*Claims filed in regular cadastral cases.*—The number of claims filed each year for the last four years by the Bureau in regular cadastral cases as well as of those filed from January 1 to October 15, 1935, is shown in the following table:

Year	Number of claims
1931	101
1932	109
1933	89
1934	46
1935	75

*Claims filed in compulsory registration cases.*—The number of claims filed from January 1 to October 15, 1935, in compulsory registration cases, as well as the number of claims in such cases for the last four years, is as follows:

Year	Number of claims
1931	89
1932	24
1933	83
1934	55
1935	29

## 4. SURVEYS

## ISOLATED LAND SURVEYS

*Surveys ordered to public land surveyors.*—Requests for isolated land surveys were received from various sources. In general, when the applicants are private individuals or enterprises that desire to have their lands surveyed for registration or other purposes, they are referred to private land surveyors, but in many cases, the survey has to be undertaken by the Bureau of Lands.

*Computations on isolated surveys.*—The computation work accomplished on all surveys executed outside and inside cadastral projects during 1934 and 1935, may be summarized as follows:

Class of surveys	Completed, 1934		Completed from January 1 to October 31, 1935		On hand October 31, 1935	
	Surveys	Parcels	Surveys	Parcels	Surveys	Parcels
Private lands A	91	1648	498	1,880	44	181
Private lands B	3,623	13,728	1,790	8,389	277	1,103
Public lands A	8,601	9,593	6,518	7,822	1,639	1,350
Public lands B			44	49	13	18
Miscellaneous lands A	1,944	4,879	640	1,055	91	156
Miscellaneous lands B	13	14	176	1,633	55	248
Miscellaneous lands C			14	14	18	20
Total	14,172	28,772	9,544	20,842	1,537	3,076

(A) Surveyed by public land surveyors.

(B) Surveyed by private land surveyors.

(C) Surveyed by mineral land surveyors.

The amount of computation work accomplished yearly on isolated land surveys from 1931 to 1935 may be seen in the following table:

Year	Received		Completed	
	Surveys	Parcels	Surveys	Parcels
1931	21,118	44,896	22,447	46,224
1932	14,908	33,103	15,905	34,986
1933	18,155	25,977	18,765	26,448
1934	17,807	27,334	14,172	28,172
1935	11,282	23,706	9,544	20,842

\* From January 1 to October 31 only.

*Surveys finally completed.*—The number of surveys that were finally completed during the first ten months of 1934 and 1935 is shown below:

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Class of surveys	Surveys	Parcels	Area in hectares
Private lands (B)	2,331	9,988	89,421.88
Private lands (A)	631	1,573	16,758.19
Public lands (B)	75	103	49,812.49
Public lands (A)	7,268	8,685	80,634.16
Miscellaneous (B)	191	717	2,365.25
Miscellaneous (A)	285	247	267.28
Totals	10,783	21,308	188,779.20

JANUARY 1 TO OCTOBER 31, 1934

Private lands (B)	1,920	9,415	89,341.45
Private lands (A)	892	2,832	14,881.87
Public lands (B)	63	103	4,818.27
Public lands (A)	6,876	8,442	125,512.90
Miscellaneous (B)	221	984	1,087.33
Miscellaneous (A)	237	878	8,635.54
Totals	10,105	22,264	198,738.11

(A) Executed by public land surveyors.

(B) Executed by private land surveyors.

## 5. PUBLIC LAND DELIMITATION AND SUBDIVISION PROJECTS

The survey and subdivision of the following public lands were inaugurated between January 1 and October 31, 1935:

Province and municipality	B. L. No.	Date of inauguration	Probable date of completion	Number of lots	Area in hectares
<b>Bataan:</b>					
<b>Bagac</b>	<b>Pls-30</b>	<b>March, 1935</b>	<b>May, 1935</b>	<b>67</b>	<b>565</b>
Laguna	Pls-37	May, 1935	May, 1936	57	343
Taytay	Pls-40	May, 1935	May, 1936	105	631
Santa Maria	Pls-41	May, 1935	May, 1936	88	528
Laguna					
Nueva Ecija					
Santa Rosa	Pls-46	July, 1935	Nov., 1935	54	324
Laguna	Pls-47	Aug., 1935	Dec., 1935	55	328
Pantabangan	Pls-48	Oct., 1935	Apr., 1936	67	401
Nueva Ecija	Pls-38	June, 1935	Jan., 1936	1,166	7,000
Pantabangan					
Laguna					
Taytay	<b>Pls-39</b>	<b>June, 1935</b>	<b>Oct., 1936</b>	<b>800</b>	<b>5,000</b>
Taytay					
Caviling	<b>Pls-45</b>	<b>Aug., 1935</b>	<b>Feb., 1937</b>	<b>626</b>	<b>5,051</b>
Laguna	Pls-52	Aug., 1935	Dec., 1935	50	485
Zambales					
Iba	Pls-49	Aug., 1935	Nov., 1935	106	682
San Marcelino	Pls-50	Aug., 1935	Nov., 1935	24	142
Caviling	Pls-51	Aug., 1935	Nov., 1935	55	401
Totals				3,330	21,884

The public land delimitation and subdivision surveys in progress in the field are as follows:

Province and municipality	Bl. No.	Date of inauguration	Probable date of completion	Approximate number of lots	Area in hectares
Antonina					
Libertad	Pls. 22	Oct., 1933	April, 1936	1,500	8,000
Bataan					
Carrang	Pls. 4	Oct., 1933	Nov., 1935	412	7,442
Santo Domingo	Pls. 5	Apr., 1935	—	600	6,000
Batangas					
Cavite	Pls. 15	Feb., 1933	Dec., 1935	—	
Dagupan	Pls. 42	Feb., 1933	Dec., 1935	—	
Tayabas	Pls. 43	Feb., 1933	Dec., 1935	—	
Cavite	Pls. 46	Feb., 1933	Dec., 1935	—	
Lucena					
Pilar	Pls. 27	May, 1935	May, 1936	67	342
Santa Maria	Pls. 30	May, 1935	May, 1936	105	681
San Ildefonso	Pls. 41	May, 1935	May, 1936	88	528
Marinduque					
Talisay Rizalnubagan	Pls. 13	May, 1934	Dec., 1935	1,500	21,000
Kapayagan	Pls. 36	Dec., 1935	Dec., 1935	700	10,000
Mindoro					
San Jose	Pls. 33	June, 1934	Dec., 1935	1,673	7,650
Nueva Ecija					
San Vicente	Pls. 46	July, 1935	Nov., 1935	54	324
San Isidro	Pls. 47	Aug., 1935	Dec., 1935	55	328
Binalbagan	Pls. 48	Oct., 1935	Apr., 1936	67	401
Nueva Vizcaya					
Pampanga	Pls. 38	June, 1935	Jan., 1936	1,166	7,000
Pampanga					
Tiray	Pls. 39	June, 1935	Oct., 1935	800	5,000
Tayabas					
Cavite	Pls. 47	Apr., 1935	Feb., 1935	625	5,051
Laguna	Pls. 52	Apr., 1935	Dec., 1935	50	486
Zambales					
Iba	Pls. 49	Aug., 1935	Nov., 1935	105	682
San Marcelino	Pls. 50	Aug., 1935	Nov., 1935	24	142
Castillejo	Pls. 51	Aug., 1935	Nov., 1935	65	401
Total				12,149	109,605

#### G. DISPOSITION OF FRIAR LANDS AND SAN LAZARO ESTATE

##### FRIAR LANDS

*Sale of vacant lots.*—From January 1 to October 31, 1935, 100 vacant lots were sold, covering a total area of 430.6250 hectares valued at ₱54,079, while 99 lots with a total area of 485.9201 hectares valued at ₱112,031.48 were sold during the same period of the previous year.

*Deeds of conveyance issued.*—During the period from January 1 to October 31, 1935, there were issued 1,400 deeds of conveyance, covering 1,405 lots with a total area of 3,266.1633 hectares valued at ₱636,552.74.

*Collections.*—The following table shows the collections from different sources, such as payments of installments, interest on deferred payments, irrigation fees, and miscellaneous receipts

surveys in progress during the period from January 1 to October 31 for each of the past five years.

Surveys in progress		Number	Area in	Year	1930	1931	1932	1933	1934	1935
100	1,000	103	1,024.62	1930	1,024.62	1,024.62	1,024.62	1,024.62	1,024.62	1,024.62
100	1,000	104	1,024.62	1931	1,024.62	1,024.62	1,024.62	1,024.62	1,024.62	1,024.62
100	1,000	105	1,024.62	1932	1,024.62	1,024.62	1,024.62	1,024.62	1,024.62	1,024.62
100	1,000	106	1,024.62	1933	1,024.62	1,024.62	1,024.62	1,024.62	1,024.62	1,024.62
100	1,000	107	1,024.62	1934	1,024.62	1,024.62	1,024.62	1,024.62	1,024.62	1,024.62
100	1,000	108	1,024.62	1935	1,024.62	1,024.62	1,024.62	1,024.62	1,024.62	1,024.62
494	8,000									
433	7,640									
400	8,000									

**Suits pending.**—At the beginning of the year, there were 51 suits pending. During the year there were filed 41 new suits, making a total of 92 cases. Of this total, 58 were settled by compromise, while judgment in one case was rendered and enforced, leaving 33 cases undecided, involving P282,230.97.

**Assignments and transfers.**—Four hundred and four assignments of sale contracts covering an equal number of lots with a total area of 1,794.1315 hectares valued at P368,053.87, were approved.

There were also issued 94 orders of transfer of rights from the deceased purchasers to their respective legal heirs. These orders cover 141 lots with a total area of 323.6377 hectares valued at P106,638.33.

**New sale contracts executed.**—There were executed and approved 82 new sale contracts, covering 226.1134 hectares valued at P50,142.76. The execution of these contracts was due to the subdivision of the original lots purchased and occupied by two or more individuals who finally agreed to separate their respective holdings.

**Cancelled sale contracts.**—There were canceled 169 sale contracts covering an equal number of lots with an aggregate area of 2,433.0766 hectares. Of the number of lots covered by these canceled contracts, 69 with a total area of 1,185.7793 hectares were formerly held by General Emilio Aguinaldo.

**Buildings on the Friar Lands Estates.**—Up to the present time there still remain undisposed of the buildings located on lot No. 160 of the Talisay-Minalin Estate in the municipality of Talisay, Province of Cebu, and another building located on lot No. 1857 of the San Francisco de Malabon Estate in the municipality of Rosario, Province of Cavite.

**Construction of roads and bridges on the Friar Lands Estates.**—For this year the amount appropriated for the construction

tion of roads and bridges on the Friar lands estates is ₱20,000. The amount of ₱19,000 has been allotted and released for twelve projects—ten in Cavite and two in Bulacan—while the sum of ₱1,000 has been reserved for forced savings. The work on these projects, except on one in Cavite, consists of repairs of the already existing roads and continuation of the ones already started in previous years.

*Friar lands investment fund.*—At the beginning of the year the amount available for loans was ₱104,024.59. Up to and including October 31, 1935, there were granted 135 new loans representing an aggregate amount of ₱78,424 as compared with 69 loans with a total of ₱62,240 granted during the same period of the preceding year.

#### SAN LAZARO ESTATE

*Disposition.*—As stated in previous annual reports, all available lots have already been disposed of. Consequently the work of the Bureau in connection with the San Lazaro Estate has been the collection of installments due and payable, the issuance of deeds of conveyance, and the administration of the San Lazaro Investment Fund, with an operating capital of ₱1,949,993.68.

The following tabulated statement shows the disposition made of the lots in the San Lazaro Estate:

#### OCCUPIED LANDS WITH CONTRACTS

	Total	Area	Value
Sold and fully paid up lots	2,428	87. 989. 8	₱2,001,982.82
Sold but partially paid Leased	20	6. 197. 8	6. 191. 00
<b>Totals</b>	<b>2,444</b>	<b>93. 987. 6</b>	<b>₱2,008,173.82</b>

\* The amount remaining to be collected of this total is ₱16,600.49.

#### OCCUPIED LANDS WITHOUT CONTRACTS

	Area	Value
Path extension	87. 78.	
Saint Lazarus Hospital	36. 436	₱20,675.00
Two water wells and water closets	10. 396	340. 422.00
Streets occupied by the City of Marikina	24. 177	111. 752.00
<b>Totals</b>	<b>120. 951</b>	<b>971,847.00</b>

*Collections.*—During the period from January 1 to October 31, 1935, the total receipts from the disposition of the San La-

zaro Estate, excluding the repayment of the loan principal, amounted to ₱109,797.87 itemized as follows:

Receipts from:

Rentals of lands.....	₱487.00
Rentals of buildings (confiscated properties) .....	1,615.00
<b>Sale of lands.....</b>	<b>11,402.23</b>
Interest on sale of lands .....	1,188.79
Service income .....	9.00
Miscellaneous .....	37.50
Accounts receivable (Misc. B-8-3) .....	1,474.82
Sale of confiscated properties .....	11,706.94
Interest on loans including interest on sale of confiscated properties .....	81,876.59
<b>Total .....</b>	<b>₱109,797.87</b>

Comparative yearly collections, from January 1 to October 31, for the last five years, are as follows:

Year	Amount
1931	₱126,871.83
1932	159,754.87
1933	118,909.82
1934	126,252.39
1935	109,797.87

THE BUREAU OF SCIENCE

1. INDUSTRIALIZATION RESEARCH

This Bureau is now particularly interested in industrial research and the establishment of small model semicommercial plants. These units are designed to illustrate the manufacture of various products from local raw materials.

In order to balance trade relations between the United States and the Philippines it is very desirable to manufacture locally the commodities that are imported from the United States.

Reports from the various divisions in the Bureau show that a creditable amount of research was done during the first nine months of the year and a number of papers were published or submitted for publication.

Last year tanbarks were collected by foresters in the Bureau of Forestry and analyzed by chemists in the Bureau of Science. Some of them were found to have a high tannin content and gave excellent tanning extract capable of making good leather. As a result of this coöperative research the Bureau of Science is now building a semicommercial plant for the manufacture of tannin extract and high-grade leather.

The value of leather and leather products imported annually into the Philippines amounts to about ₱2,000,000. Since tannin extract is regularly imported into the United States quite likely this product can be developed into an extensive Philippine export trade.

Research in the field of ceramics gave satisfactory results that were also approved for industrialization. A semicommercial unit for the manufacture of glass, roofing tiles, and other ceramic products is now being constructed. The value of glassware alone imported into the Islands in 1934 amounted to ₱1,406,469.

Experiments on medicinal plants have shown that the quinine preparation, totaquina, can be made very cheaply from Philippine cinchona bark grown by the Bureau of Forestry in Bukidnon. Plans for building a semicommercial unit for the manufacture of totaquina tablets have already been submitted to the proper authorities. Establishment of this project will enable the Bureau of Health to distribute a quinine preparation in much larger amounts than is possible at present and will result in saving thousands of lives.

Ginger is another medicinal product that was investigated. The results showed that high-grade ginger, suitable for export purposes, may be produced locally.

A number of samples of derris root were analyzed and a few were found to contain sufficient rotenone for insecticidal purposes. The cultivation of the proper varieties of derris should develop into a very profitable export business since large quantities are used in the United States.

Experiments in preparing water-proof fabrics from cotton goods and in making building boards from waste coconut husk and cane bagasse were carried out successfully.

Due to the present unsatisfactory condition of the coconut industry the research work this year on vegetable oils consisted mostly in experiments on the making of new products from coconut oil. Several lines of investigation are now in progress.

Work on Philippine resins was continued with the idea of improving their quality, and service tests on paints and lubricating oils are still in progress.

Experiments were carried out on the application of local and imported dyes to goods made in the Philippines. The imported synthetic dyes were found to give the best results.

The cloth woven by Ilocanos for towels was converted into fluffy and absorbent material suitable for bath towels and robes.

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#### 2. NUTRITION RESEARCH

In the line of nutrition further research was made on the vitamin contents of Philippine vegetables, fruits, and sea foods. Such research tends to correct the diet and improve the health of the people since various diseases are caused by a vitamin deficiency in the diet.

Experiments carried out in cooperation with the Bureau of Health on the treatment of human beriberi with crystalline anti-beriberi vitamin, obtained from Doctor Williams of Columbia University, gave satisfactory results.

An investigation to determine a biological standard for the rice-bran (kilikil) extract made in the Bureau was finished. It was found that 40 milligrams of the Bureau of Science extract are equivalent to about 10 milligrams of the international standard vitamin B. The results of this work will serve as a standard for both the local and foreign extracts containing vitamin B.

Analyses of fresh and canned milk were made to determine the comparative mineral constituents in these important food products, and a suitable covering to protect cans from spoiling in a moist atmosphere was perfected.

The nitrogen distribution and carbohydrate portion in Philippine rice bran were determined in order to obtain a more detailed knowledge of the composition of this nutritious food product.

An elaborate investigation on the nutritive values of a large number of Philippine food plants was carried out, and numerous chemical analyses giving the calcium, phosphorus, and iron contents were tabulated. The results of this research are of practical value, for they record the names of plants that are rich in important mineral constituents. Moreover, this work also shows how to combine plants that are deficient in certain mineral constituents so that the combination will be properly balanced and nutritious.

#### 3. RESEARCH ON HOME ECONOMICS

Experiments in home economics resulted in the preparation of wines from different kinds of fruits. Vinegar pickles and ketchup were also made from local raw materials. The juices of a number of Philippine fruits were tested for their pH value, and experiments on "asta" growing were made with various fruits.

## 4. BIOLOGICAL RESEARCH

Research work on biological products was continued with the idea of improving the methods of their manufacture. The keeping qualities of certain bacteriophages, such as those of cholera, typhoid, and dysentery, were investigated. It was found that cholera phage kept either at room temperature or in the refrigerator will retain its bacteriolytic properties for a maximum period of two years, and polyvalent dysentery and *B. typhosus* phages for two years and eight months.

An investigation on the purification of antidysonteric serum was completed and resulted in the development of a technique that is well adapted to tropical conditions. The purified product is more potent than the ordinary antidysonteric serum, as a therapeutic agent and contains much less protein substance. It is anticipated that this product, if widely used, will eliminate many of the cases of serum sickness that are now often observed due to the use of whole serum.

Important results on the geographical distribution of hookworm parasites and hookworm disease in the Philippines were obtained as the result of extensive quantitative hookworm surveys that were continued in different parts of the Islands. It was found that the infestations were heavier and the disease was more prevalent in Cebu, Leyte, Cotabato, and Camarines Sur than in Manila, Bulacan, Rizal, and Laguna. In the latter localities the parasitism was in the large majority of cases light and apparently of no public health importance. The difference is believed to be due to climatic and other environmental conditions that influence the temperature and moisture content of the soil. In the Philippines the distribution of the annual rainfall varies in different regions. In some localities there are two pronounced seasons, one-half of the year being dry and the other half wet, while in other places the rains are more uniformly distributed, there being either no dry season or only a short one. Where there are two pronounced seasons the environment is not favorable for the development of hookworm larvae, for the soil is either too wet or too dry during the greater part of the year. In such places the hookworm infestations are bound to be light. On the other hand, where there is a more or less uniform distribution of the annual rainfall, the environment is favorable for the spread of the parasites because the ground is kept sufficiently warm and moist during the greater part of the year. In such places many cases of hook-

worm disease were found. It was concluded that the early workers in medical zoology underestimated the importance of hookworms in the Philippines, due most probably to the fact that the majority of those investigators carried out their observations in Manila and in the neighboring provinces where the infestations are light and of no clinical importance.

Systematic studies were carried out on the parasitic fauna of Philippine vertebrates, and several interesting species were described.

#### 5. MINING RESEARCH

As usual, research in connection with the mining industry consisted mostly in securing accurate field data. The possibility of introducing into the Philippines the electrothermic method of iron smelting was investigated. The mining laws of various countries were studied to ascertain if they were suitable for adoption in the Philippines.

A bulletin on the mineral resources of the Philippines from 1926 to 1933 is now in press, and another on mining and milling practice in the Baguio district is being prepared.

#### 6. FISH AND GAME RESEARCH

The technical personnel in the Fish and Game Administration were engaged in work on the various aspects of the fishing industry. Problems in ichthyology, fish cultivation and preservation, and also systematic and economic ornithology were studied. Special investigations made during the year were as follows:

##### **The herring fishery of Manila Bay.**

The biology of mackerel (*Rastrelliger brachysoma* Bleeker) of Manila Bay.

A preliminary study of plankton of Manila Bay.  
Observations on the growth of American bull frogs under Philippine conditions.

Biology and culture of oysters.

Edible crustaceans of Manila.

Biology and culture of window-pane oysters and green mussels.

Study of Philippine swimming crabs.

Survey of the Philippine shell industry of Manila Bay.

A check-list of Philippine fishes.

Philippine fermented fishery products and their preparation.

General survey of the fisheries and allied industries of Batangas Province.

Larval fishes of Balayan and Pansipit Rivers and survey for the conservation of the fish supply of Lake Taal.

Economic value of birds frequenting fishponds.

Food of some birds from Palawan

Systematic studies of Philippine pigeons.

Life history of birds in the vicinity of Novaliches, Rizal.

Anthropological studies were made on the tool implements and porcelain obtained from Batangas and Bataan, of tattooing and skull deformation in the Philippines, and of burial jars and other specimens of archaeological importance.

#### 7. BOTANICAL RESEARCH

Botanical research on new and noteworthy Philippine orchids was continued. The collection of orchids now contains 670 species. Studies of these include ample field notes, copious descriptions, illustrations, photographs, and colored paintings of the flower of each species.

Investigations on pineapple diseases, fungi causing skin diseases, and edible and poisonous mushrooms were also made.

In the line of entomology, taxonomic studies of certain Philippine insects were made and there were also carried out investigations on insects of medico-entomological importance such as Philippine fleas, filariasis, black widow spider, *Dirofilaria*, and the behavior of surra trypanosomes in different blood-sucking arthropods. Some work was also done on the biology of *Moina*, a popular fish food.

Research in the Scientific Library consisted largely in the compilation of bibliographies or special lists of references. Bibliographies on alcohol as a motor fuel and on Philippine mines and mining were revised and brought up-to-date and are now ready for publication.

A list of industrial researches that have been worked out in the Bureau and published was also completed.

*Soil surveys.*—Since agriculture is the principal industry in the Philippines it is of primary importance that the soil conditions be studied thoroughly so as to increase the yield and quality of crops and reduce the cost of production per unit area.

Soil technologists in the Bureau have made a survey of Bulacan and Rizal Provinces and also of the Maligaya Rice and Novaliches Mango Stations. This work was done in coöperation with the Bureaus of Plant Industry, Forestry, Lands, and Weather.

#### 8. PUBLIC SERVICE

The work of the Bureau of Science covers a wide field and touches, directly or indirectly, almost every phase of human

endeavor. Most of the activities of the Bureau are of great importance to the people, but are carried on with so little publicity that the general public hardly realizes the value of the free service offered by the Bureau.

This year there has been a great deal of publicity concerning the industrialization of Philippine products. As a result the free consultation, demonstration, and extension work have increased considerably. Many individuals and representatives of companies visited the Bureau and requested information regarding the establishment of new industries or the improvement of those already in operation. Many samples of raw materials were submitted for special tests to determine their commercial value.

Free demonstrations, such as the art of making soap and other products, were given frequently and the Bureau received numerous letters requesting information about industries. Considerable time and effort was given on the part of the technical personnel to the consultation and demonstration service and to the handling of correspondence in connection with extension work.

*Public health.*--As in previous years the Bureau of Science aided the health conditions in the Islands in many ways. Foods submitted by various agencies, such as the Bureau of Health and the Bureau of Customs, were examined to see that they met the requirements of the Food and Drugs Act. Particularly important was the examination of imported canned goods. The Bureau examined and tested numerous samples of meats, beverages, confections, vegetables, fruits, cereals, and many other edible goods.

The Philippine Pure Food and Drugs Act requires that containers of medicinal and pharmaceutical preparations should have labels stating the exact nature of the contents. Under this law these products were collected by the Board of Medical and Pharmaceutical Examiners and Inspectors and analyzed in the Bureau of Science; when found to be mislabeled they were rejected for sale in the Philippines.

Examinations of body exudates, such as faeces, blood, sputum, and urine, were made as usual. As a help in diagnoses these results are important for physicians and also for the medical personnel in various Government entities, such as the Bureau of Health and Quarantine Service.

In case of suspected poisoning, stomach contents and other body specimens from autopsies were submitted to the Bureau

for chemical analysis. The results obtained were useful as evidence in medico-legal court cases.

The health of the public was protected from epidemic diseases by vaccines and sera manufactured by the Bureau of Science. Large quantities of these preparations, as preventives for cholera, dysentery, typhoid and smallpox, were made for the Philippine Public Health Service. In order to prevent the introduction of epidemic diseases, such as plague, a large number of rats were examined for the Quarantine Service.

Another important health measure was the manufacture of antirabic vaccine for the prevention of rabies. The treatment, which is free, consists of twenty-five injections. As usual a large number of treatments were given. The vaccine was also used by the city veterinarian of Manila in treating dogs.

For a number of years the Bureau of Science has been making an extract of rice bran (tikitiki extract) that contains vitamin B and is used extensively for the cure of infantile beriberi. From January to September inclusive, 25,228 bottles (capacity 50 cc.) were prepared at the cost of 19 centavos each. This extract is distributed free to poor people through the puericulture centers of the Bureau of Health.

In addition to medicinal preparations the Bureau makes various health foods. Soybean milk was made daily for distribution to puericulture centers and hospitals. This is a very nutritious product and serves as a valuable food when ordinary milk is not available.

Edible (sterilized) rice bran is another nutritious food that was prepared in the Bureau. This product, which is rich in fats, proteins, and vitamins, is sold at 2 centavos a package. When mixed with wheat flour there is obtained a bran flour that is suitable for making bread, cookies, and other bakery products. These edible products could be popularized and the production and distribution greatly increased.

*Industrial activities.*--The Bureau of Science not only manufactures large quantities of supplies for the Government but also makes a number of commercial products that are used in the Bureau. Principally among these may be mentioned book varnish, liquid soap, and library paste. Crude alcohol and ether are refined for scientific work.

Many articles purchased by the Bureau of Supply were tested to ascertain if they conformed to standard specifications formulated or approved by the Bureau of Science. Exact and ap-

propriate specifications often save the Government a great deal of money.

As a help to the Bureau of Public Works the Bureau of Science tested the strength of cement, concrete, and other materials that are used in the construction of buildings. Bacteriological examinations of the water of existing and proposed waterworks were also made. This work is important as a matter of public safety.

The Bureau of Internal Revenue has supervision over standard weights and measures. A number of samples submitted by this bureau was standardized and certified in the Bureau of Science.

Coöperation with the Metropolitan Water District consisted in testing the water supply of Manila. The water was analyzed daily to determine the amount of chlorine contained in it and examined for the bacterial content. The results of these tests were satisfactory and showed that the city tap water is safe for drinking and other domestic purposes.

For the Manila Railroad Company the Bureau made laboratory control and service tests of miscellaneous materials, such as fuels, lubricants, metals, alloys, paints, and waters.

As an aid to agriculture all fertilizers sold in the Philippines are required to be registered and examined by the Bureau to see that the farmer gets the composition guaranteed by the manufacturer. A large number of fertilizers were analyzed in accordance with the law.

In order to assist and promote the mining industry the Bureau of Science did geological survey work, investigated mineral deposits, assayed ores and bullion, tested ores for milling purposes, identified minerals, and examined mines and prospective mining claims. More requests for mining examinations were received this year than in any previous year.

The Fish and Game Administration has been very influential in developing the fishing industry in the Philippines. Quite a number of new fishponds have been constructed and new varieties of fish were imported from foreign countries for restocking the Philippine lakes and rivers. Stations for the cultivation and preservation of fish were established in various districts, and modern methods for deep-sea fishing were introduced. Quite a number of licenses were issued for hunters, fishermen, and fishing boats.

Lectures and demonstrations were given to groups of students, teachers, and nurses on the various activities of home economics, such as the preparation and preservation of foods, utilization of waste materials, home art crafts, and household furnishings.

A model house was exhibited this year at the Philippine Carnival and a display of home industries was shown during the Philippine-products-week at the Manila Trading Center and Exchange.

A number of recipes were tested to devise a national Filipino menu that is both nutritious and economical.

The Bureau has been very influential in establishing 4-H clubs. There are now 37 of these clubs located in the Provinces of Cavite, Rizal, and Tayabas. The home-economic activities of these clubs will no doubt be very beneficial in improving the living conditions of the people in these districts.

The Division of Industrial Engineering did a great deal of work for the various divisions in the Bureau of Science and also for other Government bureaus. The most important job that was finished was the remodelling of the Alabang Serum Laboratory. This unit of the Bureau now has modern refrigerating and air-conditioned rooms as well as other improvements.

The routine photographic activities of the Bureau consisted mostly in the photography of specimens from nature, photomicrography, reproductions, and enlargements, and the making of lantern slides. Photos made of hand writing and documents were useful in legal cases.

This unit of the Bureau now has 30 large albums containing over 48,000 photographs which depict the customs, habits, and industries of the Filipino people. Many tourists and scientists visit the Bureau annually and order copies of these photographs. The negatives from which these photos were taken constitute a valuable collection of scientific and historical importance.

A total of 12,354 prints were made during the past year. This is a much larger number than were ever made in any previous year.

#### THE BUREAU OF COMMERCE

##### 1. INDUSTRIAL INVESTIGATIONS

The industrial investigations accomplished during the year may be classified under three heads: (1) gathering the latest available data and information about Philippine industries and studying the prospects for their further developments; (2) in-

vestigating the possibilities of new industries; (3) investigating, with the co-operation of the field agents, the prospects for the expansion of certain household industries in existence in the different provinces and for the introduction of new ones in certain localities. The results of the various studies were disseminated by means of press releases, correspondence with interested parties, and the Bureau's publications, particularly the *Philippine Journal of Commerce*.

The lack of up-to-date statistics about several industries studied was a serious handicap in their proper appraisal; nevertheless, several important investigations were completed. Outstanding among them are:

1. The future of the embroidery industry.
2. The coconut industry.
3. The cordage industry.
4. The soap industry.
5. Vegetable lard and oleomargarine.
6. The candy-manufacturing industry.
7. The leather and rubber shoe industry.
8. The furniture industry.
9. Shellcraft.
10. Alcohol, wines, and liquor.
11. Medicinal and pharmaceutical preparations and perfumery.
12. The hat industry.

The study of the possibilities of establishing several new industries in the Philippines was also undertaken. A list of the most important industries investigated is given below:

1. Cotton textile.
2. Abacá sack.
3. Cassava starch and flour.
4. Abacá twine.
5. Paints and varnish.
6. Meat packing.
7. Ceramics.
8. Toy manufacture.
9. Rock asphalt.
10. Food preservation and fish canning.
11. Rice and corn flour.
12. Abacá household products.
13. Sporting goods.
14. Cutch.
15. Money crops.

Field agents were required to make a survey of the household industries in existence in their respective districts. Their reports give a vivid picture of the various industries existing throughout the Philippines, pointing out several that may be

profitably developed further. These investigations cover the following points:

1. Present extent of production and availability of the supply in case of increased demand in the market.
2. Standardization and grading of products in order to facilitate trading.
3. The possibility of carrying on the industry in combination with other local industries.
4. Present system of marketing the products of such household industries.
5. Range of prices paid to workers by dealers.
6. Possibility of organizing the parties engaged in such household industries into cooperative marketing associations that will not only handle the sale and marketing of their products but likewise finance the organization.

The results of this nation-wide investigation indicate that the household industries need the following for their greater development:

1. More capital.
2. Better system of marketing.
3. Advertising.
4. Better methods of manufacture and standardization of articles.
5. Organization of the workers.

## 2. PRODUCE EXCHANGE

Not only has the volume of business transacted materially improved in the Produce Exchange but a much wider territory has been covered and a greater number of people served. Our record shows that during the first ten months of 1935 the Produce Exchange actually sold merchandise consisting of varied agricultural produce valued at ₦144,260.59 compared with ₦102,523.54 during the same period in 1934, or an increase of almost 30 per cent. A comparative statement of the sales made by the Produce Exchange during the first ten months of 1934 and 1935 is given below:

Months	1934	1935	Increase or decrease
January	₦4,372.23	₦16,018.88	₦11,646.65
February	3,501.94	5,870.34	2,368.40
March	10,129.45	18,260.71	₦8,140.26
April	7,812.83	12,285.49	₦4,472.66
May	5,987.48	15,845.04	₦9,857.56
June	13,535.21	14,930.84	₦1,395.63
July	7,609.96	12,999.49	₦5,389.53
August	15,737.12	12,911.85	-2,825.27
September	17,201.13	17,919.82	₦710.69
October	16,628.19	17,209.82	₦581.63
Total	₦102,523.54	₦144,260.59	₦41,737.05

In addition to the above sales for which the Bureau actually collected a commission of  $\frac{1}{2}$  per cent, the Produce Exchange was also instrumental in promoting sales by bringing the parties together and for which the Produce Exchange has not received any pecuniary return. The greatest bulk of our sales centered on rice which constitutes over 70 per cent of the total. The rest is divided between copra, which figures with the total sales of over ₩8,700, and sugar with ₩8,686. Other articles handled were, in the order of their importance, corn, leaf tobacco, peanuts, almaciga, gum elemi, salt, charcoal rattan, etc. A noteworthy phase of this service is that the great majority of those who avail themselves of its benefits come from the rank of small producers and merchants for whom the Produce Exchange was primarily created.

### 3. TRADE REGULATIONS

A complete list of the corporations according to their description, registered during the period from January 1 to October 31, 1935, is as follows:

	Number
Domestic corporations .....	309
Foreign corporations .....	10
Cooperative marketing associations.....	7
Puerculture centers .....	13
Religious corporations .....	4

The total number of corporations registered during the same period last year was 269, as against 333 this year, or an increase of 64. This increase was mainly due to the growing interest of our capitalists in the mining industry of the Islands, for out of 309 domestic corporations, 50 were mining ventures.

The following is a summary of the capitals of the corporations registered from January 1 to October 31, 1935, according to their articles of incorporation:

#### DOMESTIC CORPORATIONS

Authorized capital stock .....	₱45,784,890.00
Shares, non-par value .....	113,600.00
Subscribed capital stock .....	17,513,788.69
Paid up capital stock, cash .....	3,654,998.50
<b>Property .....</b>	<b>7,946,608.13</b>

#### FOREIGN CORPORATIONS

Authorized capital stock .....	₱12,084,000.00
Subscribed capital stock .....	5,170,000.00
Paid up capital stock .....	5,070,000.00

A summary of the capital of the mining corporations registered from January 1 to October 31, 1935, together with the nationalities of the holder of the controlling interest, is as follows:

**AUTHORIZED CAPITAL STOCK**

		Shares without par value
American	.....	₱6,545,000
Belgian	.....	1,000
Filipino	.....	8,735,500
<b>Total</b>	.....	<b>₱15,281,500</b>
		<b>33,200</b>

**SUBSCRIBED CAPITAL STOCK**

American	.....	₱2,476,006
Belgian	.....	1,000
Filipino	.....	2,637,562
<b>Total</b>	.....	<b>₱5,114,658</b>

**PAID UP CAPITAL STOCK**

American	.....	₱188,981.00
Belgian	.....	1,000.00
Filipino	.....	448,977.37
<b>Total</b>	.....	<b>₱638,968.37</b>

**PROPERTY**

American	.....	₱18,400.00
Filipino	.....	179,500.00
<b>Total</b>	.....	<b>₱197,900.00</b>

**MINING CLAIMS**

American	.....	₱1,000,000.00
Filipino	.....	1,124,100.00
<b>Total</b>	.....	<b>₱3,024,100.00</b>
<b>Total paid up</b>	.....	<b>₱3,860,908.37</b>

A statement showing the investment by nationalities of the registered stock corporations, from January 1 to October 31, 1935, is as follows:

Nationality	Authorized	Subscribed	Paid up		
			Cash	Property	Mining claim
Philippine	₱20,622.115	₱7,871.307	₱1,582,454	₱8,574,118	₱1,124,100
American	12,419.925	4,431.381	813,798	708,877	1,900,000
Chinese	1,956.150	981,650	226,681	643,617	—
Spanish	0,450.000	4,111.100	1,015,350	8,025,000	—
English	21,900	11,000	3,500	—	—
All others	295,000	99,000	63,289	—	—

*Registration of partnerships.*—This Bureau registered 184 documents, from January 1 to October 31, 1935, pertaining to partnerships. They are classified as follows:

- 92 Articles of partnership.
- 34 Amendments to articles of partnership.
- 15 Bills of sales.
- 25 Powers of attorney.
- 18 Articles of dissolution.

*Registration of trade-marks, trade-names, and United States letters patents.*—The total number of applications for trade-marks and trade-names filed and examined during the period from January 1 to October 31, 1935, was 321. Of this number 186 were approved and registered.

The total number of trade-marks and trade-names registered last year during the same period covered by this report was 276, as against 186 of this year, or a decrease of 90. The reason for this decrease was that the applicants for trade-marks and trade-names were required to comply strictly with the new rules and regulations governing the registration of trade-marks and trade-names (Commerce Administrative Order No. 8), before they could obtain registration.

Forty-nine certified copies of the United States letters patents were filed, pursuant to the provisions of Act No. 2235. One assignment of United States letters patent was also recorded.

*Registration of business names.*—From February of this year, when the registration of business names was actually begun, up to October, about 9,300 applications had been received by this Bureau from Manila and the provinces. These 9,300 applications were acted upon as follows: 8,794 were registered; 298 were pending for certificates; and about 208 applications were rejected.

*Licensing and bonding of brokers.*—A total of 470 brokers' certificates of all classes, both new and renewal, including those of subagents, were issued from January 1 to October 31 of this year, as compared with 575 in 1934 for the same number of months, or a decrease of 105. The certificates issued during the first ten months of the year under review and for the same number of months of 1934, are classified as follows:

Class of brokers	1934	1935
Stock or bond	73	83
Merchandise	229	182
Ship	133	99
Exchange	104	75
Real estate	36	31
<b>Total</b>	<b>575</b>	<b>470</b>

The decrease is due to the fact that the time of the limited number of commercial agents in Manila and in the provinces was occupied in their campaign for the registration of business names, the enforcement of Act No. 4147.

The following statement shows the number and class of brokers' certificates surrendered between January 1 and October 31, 1935:

Class	Number
Stock or bond	9
Merchandise	18
Ship	9
Exchange	9
Real estate	2
<b>Total</b>	<b>47</b>

*Registration of aliases.*—The registration of aliases was continued during the first ten months of the year under review. Upon the enforcement of Act No. 4147, amending Act No. 3883, known as the Law on Aliases, a good increase in the registration of names other than true names of merchants has been attained.

From January to October of this year, 214 aliases, both new and renewal, were registered, as compared with 96 for the same period of 1934, or an increase of 118. Out of the 214 applicants for aliases, 202 were Chinese; 6 Filipinos; 3 Greeks; 1 American; 1 Japanese; and 1 Hindu.

*Registration of bulk sales documents.*—During the first ten months, there were registered and filed in this Bureau 22 documents on the sale, assignment or transfer of wares, goods or

merchandise in bulk, as compared with 5 in 1934 for the same number of months, or an increase of 17.

*Survey of unfair trade practices.*—A survey to determine and remedy unfair methods of competition was undertaken by this Bureau as a special activity pursuant to the provisions of Commerce Special Order No. 71, as amended by Special Order No. 71-1, dated May 18, 1935.

By means of interviews with the dealers and consumers alike, and through personal observations of business transactions conducted in the stores and public markets, agents were able to gather nearly seventy different cases or instances of unfair practices. These unfair trade practices may be classified under five principal groups as follows:

1. Adulteration of commodities and misrepresenting them as pure, or selling them under such names or circumstances that the purchaser is misled into believing them to be pure.
2. Misrepresentation in various ways calculated to deceive the consumer as to weight, quantity, quality, and appearance of commodities.
3. Misbranding of commodities as to the materials or ingredients of which they are composed or made, their quality, origin, or source.
4. Various schemes to deceive or defraud the purchasers.
5. Miscellaneous cases of dishonorable and dishonest business methods practiced by the seller against his competitor.

The survey was not confined to the City of Manila, but was extended to the provinces beginning September, by virtue of Commerce Special Order No. 71-2. The reports received so far from the provincial agents indicate that practically the same or similar instances of unfair business methods as those existing in Manila prevail in the provinces.

### 3. RURAL CREDIT WORK

*Organization, promotion, and supervision.*—During the year no new association was organized. Our policy was to leave to the people the initiative of organization in order that they could realize the tremendous responsibilities that they had to shoulder in keeping up the enthusiasm among themselves and in making their own creation serve the purpose for which it was to be created. Technical advice was given to any one seeking for information and details. Personal assistance was rendered when it was particularly sought.

Occasional visits were made to the existing associations to encourage them in their work, help them solve their own problems, and, in many cases, to furnish them legal assistance in the collection work. We have found that the underlying causes which retard the speedy advancement of these local credit institutions, or rather keep them in their lethargic condition, are the lack of constant supervision, faulty administration, lack of loanable funds, and lack of incentive to work.

*Educational propaganda.*—In compliance with the instructions contained in the circular letter, dated March 28, 1935, in which a program of special activities of the Department for the year 1935 was outlined, the Bureau has taken the initiative of organizing provincial conventions of agricultural credit co-operative associations, with the view to disseminating such information as would enlighten the members thereof, discussing urgent and vital problems which confronted them in their activities, awakening their interest towards improving the management of the different associations that have been established under the supervision of the Bureau, and to making said associations serve the purposes for which they were organized. In keeping with this attitude, a special program of activities to carry out this plan has been prepared and provincial conventions were held in the following places:

1. Dagupan, Pangasinan—February 3, 1935.
2. San Fernando, La Union—February 3, 1935.
3. Tarlac, Tarlac—March 9, 1935.
4. Malolos, Bulacan—March 16, 1935.
5. Pasig, Rizal—March 19, 1935.
6. Vigan, Ilocos Sur—March 26, 1935.
7. Laoag, Ilocos Norte—March 27, 1935.
8. Cabanatuan, Nueva Ecija—April 10, 1935.
9. Bayombong, Nueva Vizcaya—April 12, 1935.
10. Bangued, Abra—April 12, 1935.
11. Batangas, Batangas—April 29, 1935.
12. Zamboanga, Zamboanga—May 7, 1935.
13. Balanga, Bataan—May 7, 1936.
14. Cagayan, Oriental Misamis—May 11, 1935.
15. Tagbilaran, Bohol—May 13, 1935.
16. Dumaguete, Oriental Negros—May 15, 1935.
17. Iloilo, Iloilo—May 18, 1935.
18. San Fernando, Pampanga—May 25, 1935.
19. Cavite, Cavite—May 29, 1935.
20. Ilagan, Isabela—May 30, 1935.
21. Lucena, Tayabas—June 4, 1935.

22. Capiz, Capiz—June 8, 1935.
23. San Jose, Antique—June 11, 1935.
24. The Bicol region.
25. Zambales Province.

*The provincial federations.*—As has been outlined in the various reports submitted to the undersigned, the formation of provincial federations in all the provinces where there are five or more rural credit associations, was one of the main activities of this Bureau, which met enthusiastic response from the people, particularly from the enlightened members of the associations. The purposes for which the federation of agricultural credit co-operative associations is organized, as provided in its uniform Constitution (Addendum F), are as follows:

1. To promote the successful development of the agricultural credit co-operative associations in a province;
2. To provide for the necessary and practical leadership in the upbuilding and supervising of the agricultural credit co-operative associations that are federated;
3. To conduct systematic educational propaganda with a view to inculcating in the minds of their members the spirit of cooperation, the habit of thrift, activity, and punctuality in the fulfillment of their obligations;
4. To work out a plan whereby these small credit institutions may serve as the nuclei for a provincial cooperative credit bank for the farmers;
5. To devise ways and means for the development and enhancing of credit facilities with the ultimate purpose of making usury impotent, if not altogether impossible;
6. To act, whenever necessary, as coördinator for the transfer of loanable funds from one association to another in order that idle funds may be utilized to their fullest extent;
7. To study and submit such legislative plans as may be necessary for the proper and more practical accomplishment of the purposes for which the federated associations have been organized; and
8. To make and execute such plans as may be conducive to the best interest of the associations and their members so far as such plans shall not be in conflict with the laws, rules, and regulations governing said associations.

*The Rice and Corn Fund.*—The activities of the Bureau in connection with this special fund were limited to the collection of overdue loans. No new loan was granted nor has any extension for the payment of the standing loans been authorized. In view of the provisions of Act No. 2818, as amended by Act No. 3594, that the operation of said fund was to expire June 3, 1935, this Bureau started preparing all the necessary steps leading to the foreclosure of the securities for unpaid loans

due from 181 associations, but all such steps have been stopped because of the passage of Act No. 4169 which apparently extended the life of the Rice and Corn Fund to twenty years.

*The collection campaign.*—At the beginning of the year, the outstanding loans due from 181 associations amounted to ₱841,771.34. October 31, 1935, the total amount due from 180 associations was ₱792,673.12. The amount collected for principal alone during the period of ten months (January to October) was ₱49,122.02. With this amount, the sum of ₱32,017.97, collected from the associations as accrued interest should be included, making a grand total of ₱81,139.99 collected.

#### 4. THE MANILA TRADING CENTER AND EXCHANGE

The Manila Trading Center and Exchange has already become a great factor in the growth and development of local industries. It is now serving not less than 271 regular consignors, most of whom are manufacturers of Philippine-made goods. Due largely to its present location, which is evidently more strategic than its former place, its sales have increased and are still on the upward trend. It is still operating at a loss, but latest tendencies and developments show that it will soon become self-supporting.

During the period from January 1 to October 31, 1935, the Manila Trading Center and Exchange, formerly a section only of the Trade Promotion Division, had accomplished the following:

- (a) Management of the Manila Trading Center and Exchange.
- (b) Participation in the 1935 Manila Carnival.
- (c) Management of the Fourth Floating Exposition.
- (d) Participation in provincial and municipal fairs and expositions.
- (e) Organization and supervision of provincial trading centers.
- (f) Campaign for greater patronage of Philippine-made products.
- (g) Operation of traveling sari-sari store.
- (h) Extension of the benefits of the service of the Division in all its sections to the merchants, manufacturers, and the consuming public through practical methods of approach.

January 1, this year, there were two hundred fifty-five (255) consignors as against two hundred seventy-one (271) October 30, or an increase of sixteen consignors during the first ten months of the year under review.

Since the beginning of this year there has been a noticeable increase in the volume of business transacted in the Manila Trading Center and Exchange, indicating the increasing extent of its service to local manufacturers and an encouraging sign

of acceptance of the products of domestic manufacture. The increase in the volume of sales shows a growing confidence of the people in the trade promotion work and the usefulness of the Manila Trading Center and Exchange to Philippine manufacturers.

*Sales.*—The most salable goods are abacá products, such as belts, door mats, dusters, handbags, slippers, flowers, rugs, twines, and shoes; bagoong sarap, basi, bocayo, barquillos, coco-honee; coconut products, such as buckles, buttons, door mats, and skating mats; baskets made of nito and bamban; coconut graters; feather dusters, fancy lampshades, hats, Ilocano textiles, jusi cloth, chemises, leather slippers, tambo brooms, rubber shoes, rubber sandals, floorwax, rattan furniture, silhouettes, hams, pili nut fluffs, preserves, pickles, flours, jellies, hojaldres de Cebu, Ilocano cigars, liquors and wines, soft drinks, nata de piña, pastillas de leche, novelty nut toys, neckties, Madrigal cloths, soaps, knives, stove tongs, novelty reptile goods, roperos, toy trucks, vinegar, wooden buttons, and wood carvings from Paete and San Ramon Penal Farm.

During the first nine months of this year, the Manila Trading Center made total sales amounting to ₱38,213.12 as compared with ₱15,089.13 for the same months last year, or an increase of ₱23,123.99. Of this sum ₱14,274.85 is the total value of sales of purchased merchandise during the said period, as against ₱9,482.48 for the same period in 1934, or an increase of ₱4,792.37.

The traveling sari-sari store sold ₱1,818.29 worth of various kinds of merchandise during a little over two months that it was in active peddling around the city.

During our participations in various carnivals, fairs, and expositions, the Bureau had likewise sold ₱72,014.01 worth of different kinds of products compared with ₱45,037.81 in 1934, or an increase of ₱26,976.20.

In addition to the above, the Produce Exchange of the Bureau made total sales amounting to ₱127,051.46 during the first nine months of 1935 as against ₱85,895.37 for the same period last year, or an increase of ₱41,156.09. The aggregate sale, therefore, of the Manila Trading Center and Exchange during the period from January to October amounted to ₱239,096.88.

*Income and expenditures.*—From January 1 to September 30, 1935, the total income of this Division, consisting of commissions and profits earned, amounted to ₱6,047.58, or an aver-

age monthly income of ₱671.95. The operating expenses during the same period of time run up to ₱10,501.20, or an average of ₱1,166.80 per month. Comparing the income and the expenses, it appears that there is a loss of ₱4,453.62 from operation. After deducting the other income amounting to ₱1,284.97 from the operating expenses there remains a net loss of ₱3,168.65 from operation during the first nine months of this year. It is expected, however, that at the end of the year this loss will be greatly reduced if not entirely wiped out on account of the big estimated income that will be realized during the last three months of this year.

#### 5. PARTICIPATION IN THE 1935 MANILA CARNIVAL

The Manila Trading Center and Exchange was again in charge of the participation of the Bureau of Commerce in the 1935 Manila Carnival Commercial and Industrial Fair. As in previous years, its participation was mainly an exhibition and sale of the varied articles of Philippine manufacture, except the demonstration of the manufacture of straw hats which was undertaken by one of the exhibitors. The participation constituted a unit in the Second National Agricultural and Commercial Exposition of the Department. It occupied a floor space of 230 square meters aside from that used as bodega which measured approximately 6 meters in diameter. The exhibits consisted of the different products of the country and were divided into four departments; namely, foods and drinks, drugs and chemicals, textiles and footwear, and miscellaneous products.

Eighty-seven merchants and manufacturers joined by consigning or displaying their products in the Bureau of Commerce booths. During the entire period of the show total sales amounting to ₱4,331.66 were realized, compared with ₱2,493.24 for 1934, or an increase of ₱1,838.42. A profit of ₱266.32 was realized.

#### 6. THE FOURTH FLOATING EXPOSITION

The fourth floating exposition is one of the most successful ventures of the Bureau of Commerce through the Manila Trading Center and Exchange. As in previous years, the exposition was again carried by the steamer *Bustamante* and toured twenty-two important ports of the Visayan Islands, Mindanao,

and Sulu. The exposition lasted 27 days and made sales amounting to ₱63,125.61, or more than double the sales made by the Third Floating Exposition, which amounted to only ₱31,170.20, or two and a half times bigger than that of the Second Floating Exposition which was more than twice the sale made by the First Floating Exposition.

The estimated value of goods on board the steamer *Bustamante* was ₱75,000. The goods were composed of about 1,000 different items of merchandise which were grouped under about sixty general classifications and subdivided into twelve different departments; namely, drugs and chemicals; textiles and wearing apparels; footwear and food products; alcoholic beverages and soft drinks; cigars and cigarettes; jewelry; toys; novelties; furniture; tiles, bricks, and marble works; mats and rugs; and stoves and kitchen utensils. The sales staff was composed of about fifty persons including those sent by the Bureau. The exposition traveled approximately 3,950 nautical miles and spent around 390 hours in different ports. The estimated number of visitors to the exposition is placed at around 200,000.

#### 7. ORGANIZATION AND SUPERVISION OF PROVINCIAL TRADING CENTERS AND STORES

What constituted another important activity of the Bureau is the organization and establishment of provincial trading centers or stores for made-in-the-Philippines products. During the first 10 months of 1935 ten provincial trading centers were established, as compared with eight organized during 1934, making a total of 18 trading centers so far established in the various parts of the Philippines. Hereunder is a list showing the different provincial trading centers established in 1934 and during the first 10 months of 1935:

##### PROVINCIAL TRADING CENTERS ESTABLISHED IN 1934

1. Dagupan Trading Center and Exchange, Dagupan, Pangasinan. **Proceso Fernandez, manager.**
2. Nueva Ecija Trading Center and Exchange, Cabanatuan, Nueva Ecija. **Miguel Villanueva, manager.**
3. Camarines Sur Trading Center and Exchange, Naga, Camarines Sur. **Atty. M. E. Villafuerte, manager.**
4. Leyte Trading Center and Exchange, Tacloban, Leyte. **M. A. Redona, manager.**
5. Iloilo Trading Center and Exchange, Iloilo, Iloilo. **Miss Victoria G. Jesena, manager.**

6. Cebu Trading Center and Exchange, Cebu, Cebu. Honorio Contreras, manager.
7. Cagayan Trading Center and Exchange, Cagayan, Oriental Misamis. Filomeno M. Bautista, manager.
8. Zamboanga Trading Center and Exchange, Zamboanga, Zamboanga. Miss Loreto N. Ruste, manager.

ESTABLISHED IN 1935

1. Ilocos Sur Trading Center and Exchange, Vigan, Ilocos Sur. Miss Elisea Florendo, manager.
2. Laguna Trading Center and Exchange, Pagsanjan, Laguna. Jose Zaire, manager.
3. Batangas Trading Center, Batangas, Batangas. Miss Ariveli Aguirado, manager.
4. Naujan Trading Center, Naujan, Mindoro. Alejandro Malabanan, manager.
5. Sarangani Trading Center, Sarangani, Tavabas. Mariario Ramos, manager.
6. Daet Trading Center, Daet, Camarines Norte. Dr. Jose Z. Linan, manager.
7. Capiz Trading Center, Capiz, Capiz. Miss Rosario L. Aflo, manager.
8. Dumaguete Trading Center and Exchange, Dumaguete, Oriental Negros. Jose P. Arrieta, manager.
9. Davao Trading Center, Davao, Davao. Atty. Miguel N. Lanzona, manager.
10. Sulu Trading Center, Jolo, Sulu. Dr. Paciano T. Garcia, manager.

Thirty-eight applications for the establishment of trading centers in the provinces were received in the Bureau. These applications were submitted by private individuals, partnerships and corporations, and provincial and municipal officials. Approval of the applications is being held in abeyance until they meet the requirements of Commerce Administrative Order No. 16 which governs the organization, establishment, and operation of provincial trading centers.

#### 8. THE RICE CRISIS

It was generally admitted even at the beginning of 1935 that the 1934-1935 harvest was comparatively lean and was expected to fall short of actual requirements for 1935. The huge carry-over, however, from 1934, as a result of an unusually good harvest for that year, considerably eased up the apprehensions of the people about the probable shortage in 1935. During the first six months of the year, except for minor fluctuations, prices remained at a level only slightly above that ruling during the first six months of 1934, a condition justified by the relative shortage of the 1935 harvest. The advance, however, came in alarming proportions during the third quarter of the year.

July 1, the price for first-class Macan stood at ₱4.95. One month thereafter it moved to ₱5.55 and on September 1, it stood at ₱5.85 at which time the Bureau of Commerce felt it was about time to take certain measures to prepare the country for the impending emergency. The peak was reached on or about September 19 immediately after the elections and it was about a week after this that the Bureau brought in its first consignment of rice from abroad in response to the clamor of the consuming population for cheaper rice.

*Conference with rice merchants to maintain price at ₱6 per cavan.*—On August 30, 1935, a conference of rice merchants and millers was held in the Office of the Director of the Bureau of Commerce. A frank and free discussion of the different viewpoints of the interests concerned was made. The Director of the Bureau expressed the opinion that ₱6 a cavan for Macan rice in Manila should be considered reasonable enough. Millers as well as merchants promised to coöperate with the Government in its desire to maintain this price. In spite of the promised coöperation, however, prices continued to rise, the peak having been reached on September 19, 1935. It was at this time that the undersigned took up in a Cabinet meeting the urgent necessity of bringing in rice from abroad at a reduced rate of duty to stop the tide of advancing prices which was then about a peso per cavan over that indicated by the Bureau of Commerce.

Long before it was definitely decided to import Saigon rice, the Bureau of Commerce as well as the office of the undersigned, had been receiving letters, telegrams and petitions from the public in the city as well as in the different provinces, especially the laboring class which constitutes the mass of our consuming population, asking the help of the Government in maintaining the price of rice within their very limited means. In some provinces it was reported that unless rice at a lower cost was made available, many people were sure to starve, while in others the danger of possible disorders and restlessness from the radical elements was envisaged.

*Decision to import rice from abroad.*—The demand for cheaper rice being, therefore, widespread, the Government could not but heed this demand in the interest of the rice-consuming masses as well as of public peace and order. Before deciding to bring in rice from abroad, however, the Bureau of Commerce deemed it best to purchase as much of native rice as could be

had at reasonable prices. This step was prompted by the desire not only to protect the interest of the consuming population but also to give producers a feeling of assurance that the Government in its efforts to afford the rice problem its proper solution had the interest and welfare of the producing element also in mind.

Later on because of the increasing difficulty of obtaining native rice at reasonable prices, the Bureau of Commerce recommended that the tariff duty on rice be reduced from ₱0.05 to ₱0.03 a kilogram as provided in Act 3918 authorizing the Governor-General to reduce the duty on rice if in his judgment conditions warrant such a step. Strong opposition, however, developed in some quarters owing to certain technical difficulties encountered in the interpretation of the act, and so it was decided at a cabinet meeting that rice should be brought in from abroad under the Emergency Act No. 4198, allowing free importation of certain articles for relief purposes in cases of public emergencies.

On September 21, a cable was sent to the American Consul in Hongkong requesting him to buy 40,000 sacks of Saigon rice No. 1 and No. 2 in equal quantities at the best obtainable prices. In view of the fact that the Consul's shipment would not be available until after several days and on account of the urgent demand from the public both in the City of Manila and in the provinces for a cheaper supply of rice, representations were made with local rice merchants and importers for the purchase of 25,000 sacks of rice for immediate delivery.

*Executive proclamation of the Governor-General.*—On September 25, Executive Proclamation No. 845, declaring in full force and effect the provisions of Act 2868, penalizing the monopoly and hoarding of and speculation in palay, rice, etc., was issued by the Governor-General followed by Executive Order No. 872 requiring the licensing of rice dealers and the reporting of their stocks.

*Arrival of first shipments and starting of sale.*—On September 30, 1935, our first shipments of imported Saigon rice arrived: 4,800 cavans of 57 kilos from the American Consul at Hongkong, 7,720 cavans of 57 kilos from Siy Cong Bieng, and 5,647 cavans of 57 kilos from Tan Sio & Company. The next day, October 1, our sale of relief rice began with shipments to needy provinces. The cereal was sold at ₱5.80, ₱5.50, and ₱5.20 for first, second, and third class, respectively. The rest of our order

from the American Consul at Hongkong amounting to 35,200 cavans of 57 kilos arrived October 6, 7, and 14, respectively.

The immediate effect of these arrivals was a lowering of the price of native rice, but on October 16 prices again soared to **P7 per sack of 57 kilos.**

The sale of rice was brisk and our first stock of 53,367 cavans of 57 kilos lasted only until October 25, 1935. The availability of imported rice at a low cost was a great relief to the great mass of our poor population who demanded more and more of the cereal. This first supply was distributed to the City of Manila and to 231 municipalities in 39 provinces.

*Licensing of rice dealers in accordance with Executive Order No. 872.*—Pursuant to the provisions of Executive Order No. 872, Commerce Memorandum Order No. 69 was issued on September 27, 1935, directing all district and provincial commercial agents in the field to keep a close watch of the rice situation and to report to the provincial or city fiscals at once any violation of Act 2868. The license section organized to take care of the licensing of rice dealers and merchants started to function September 30, 1935. Up to November 14, 1935, it has issued 1,919 licenses in the City of Manila excluding those in the provinces which were taken care of by the provincial treasurers and their deputies.

*Additional purchases and receipts up to November 14.*—On October 16, and before our original stock of 53,367 cavans was exhausted, another purchase of 25,000 cavans of 57 kilos was made. Siy Cong Bieng's contract of 5,000 cavans was delivered October 31, Yek Hua's 10,000 cavans November 2, Tan Sio's 5,000 cavans November 4, and Florencio Reyes & Co.'s 5,000 cavans November 5, 1935.

Up to November 14, 27,231 additional cavans of 57 kilos were received; from F. Reyes & Co. 12,508 cavans, Wing Woo Chong 5,076 cavans, and the American Consulate at Hongkong 9,547 cavans. From September 30 to November 14, 1935, we therefore received a total of approximately 10,598 cavans of Saigon rice.

*Drawing up of the organization to carry on the work.*—Immediately after the declaration of the state of emergency, this Bureau drew up a plan of organization to take care of the rice relief work. Regulations regarding the plan of distribution, etc. were drawn up and together with the plan of organization were submitted to and approved by the undersigned.

*Plan of distribution through provincial treasurers.*—Our original plan of distribution as embodied in General Memorandum Order No. 139, dated September 25, 1935, approved by the undersigned and concurred in by the Honorable, the Secretary of the Interior, was to sell Saigon rice through the provincial treasurers and their deputies to the municipal treasurers. As our relief work progressed, however, it was found that provincial and municipal officials were not able to cope with the situation in the provinces so that complaints were received from the poor, especially those living in remote barrios and isolated places, who claimed that they could not be reached by the imported rice which was primarily intended for them.

*Amending original plan of distribution by allowing private parties to sell rice.*—On October 18, a private party, the president of a large farm organization in Bulacan with an alleged membership of over 17,000, was authorized to assist the Government in selling rice to the poor farmers and laborers and to the public in several municipalities of Bulacan. From then on many other private individuals in Bataan, Bulacan, Cavite, Laguna, and Rizal were authorized to help the Government in a greater and wider distribution of rice to relieve the distressed and the poor. Sale to employers of labor, landowners with tenants and other farm hands, charitable institutions, etc. was also allowed to facilitate and expedite distribution.

*Sale in the Trading Center, etc. and in the city markets.*—While we were extending our relief work in the provinces, the poor and indigent in the City of Manila were not neglected. Long before the city government started selling relief rice in its public markets the Bureau was retailing native rice at the Manila Trading Center and Exchange. This service started September 11, and up to November 4 about 17,000 buyers representing around 85,000 persons had been served. The Center was so congested because of the sale of rice (it served 1,400 people in one day), that it was decided to stop rice sales to allow the store to conduct its regular business unimpaired. On November 4 sale at the Trading Center was closed and selling stations opened in the Sta. Potenciana Building, Intramuros, of the Department, and the Produce Warehouse at Dagupan, Tondo. In view of complaints on the part of buyers that they had difficulty in securing their daily supply of rice in the twelve public markets of the city which limited sales to two gantas,

and where they had to wait hours on a stretch, the Bureau opened five more stations, one on Juan Luna, Tondo; one on Velasquez Street; one in Sampaloc, another in Sta. Mesa, and one at our bodega in the Division of Purchase and Supply. The opening of these stores eased the strain somewhat in the city, but it was discovered that even with these eight selling stations supplementing the sales in the twelve public markets of the city, the poor were still having difficulty in getting their rice daily.

*Primordial aim to relieve the distressed.*—In the execution of our rice relief work one thing was uppermost in our minds, and that was the desire to relieve the indigent and distressed to the best of our ability through the scanty and limited means at our disposal. To meet the emergency, to extend to the needy the aid they sorely needed, to help prevent disorders due to failure on the part of the poor to secure their daily rice, the essential diet of our people, to counteract the discontent engendered by the soaring price of rice, were the problems confronting us constantly. Ours was a tremendous and grave responsibility. We did our best to meet it squarely.

The organization handling this work, from the Director and the Assistant Director down to the most lowly laborer on our service, spared no efforts to give the service expected from them, so that they may not be found wanting in the performance of the great task placed in their hands by His Excellency, the Governor-General.

*Hundreds of people served daily.*—Our office was packed daily. Hundreds came from day to day to secure their supply and we had to deal with all sorts of people who desired all kinds of information regarding the sale of rice and our relief work. Telegrams and long-distance telephone calls poured in from all directions. Service to the public was our aim. The demand for rice had been increasing daily, so much so that during the period from October to November 14, 1935, most of our personnel in the rice emergency staff had to work not less than 12 hours daily. In the office and at the warehouse people were served up to 7 in the evening; in our selling stations they were received up to dusk, and work up to 10 o'clock in the night to finish the business for the day was not infrequent. Our personnel in the warehouse were the most taxed, especially when there was a rush for orders after the lapse of several days with-

out rice. When receiving new supplies they had to work up to 1 or 2 o'clock in the morning of the following day without additional pay nor allowance for transportation or subsistence.

*Field force kept busy too.*—While our attention was engrossed with the urgent problem of distributing the cereal to the needy we did not neglect on the other hand our regulatory and intelligence work. Our field men were required to watch the rice situation in the provinces very closely to keep tab on any act of profiteering, to follow up the distribution of Government rice to see to it that it really went to those entitled to relief, and to detect and report all irregularities connected with its handling. In the City of Manila an inspection service was organized the duty of which was to check up the sales reports of those authorized to assist the Government in the distribution of rice in localities far from the public markets, to see that they were really selling the rice to the needy and that all our regulations were complied with. Any report or rumor regarding any alleged irregularity was duly followed up. At one time we had to send special investigators to San Juan del Monte and Paranaque, Rizal, to look into reported anomalies in the sale of Government rice in those places.

*Financial statement as of November 14.*—November 14, 1935, the books of the rice relief administration showed the following:

Cash on hand	₱36,353.09
Total cash receipts	294,117.21
Accounts receivable	211,256.78
Payments (including stock)	404,646.16
Accounts payable	147,347.89
Value of stock on hand	9,950.00

#### THE WEATHER BUREAU

##### 1. METEOROLOGICAL DIVISION

###### CENTRAL OBSERVATORY

There were nineteen typhoons and six depressions over the Far East (as of October 31, 1935); one typhoon in April, two in July, five in August, four in September and four in October. There were two depressions in May, two in July, and two in September.

Of these typhoons and depressions the following crossed some parts of the Archipelago:

*April 1 to 5.*—Forming ESE of Yap, the typhoon moved WNW for three days, decreasing its speed as it proceeded. It began to move more rapidly during the night of April 5, reaching the WSW at the same time. The

morning of April 6 found it over the Island of Samar, between Borongan and Guiuan, very close to the former station. It soon changed to a NW course, passing over Catbalogan and Calbayog, two towns on the western coast of Samar. The calm area known as the eye of the storm was reported at Catbalogan. When the storm reached the eastern portion of San Bernardino Strait, it remained stationary or moved very slowly for many hours during the day (April 6) and then during the night it moved to a position between the Island of Matiudeque and Borneo Peninsula. It now moved slowly NW and the afternoon of April 7th found it between Infanta, Tayabas, and Manila. From this time it began to weaken. It crossed Central Luzon as a depression and entered the China Sea. Borongan reported a minimum of 710.38 millimeters (27.1968 inches) with winds of force 12 from the north. Sixty lives were lost (April 6, 6 a. m.). The town of San Narciso on the eastern coast of Borneo Peninsula was practically destroyed, besides the damage to light material houses and strong material houses near the center of the storm.

*September 8 to 19.*—A depression formed NNW of Palau, then moved WNW, gradually changing to the NW, increasing in intensity, becoming a typhoon. It inclined to the WNW and entered Central Luzon passing a short distance north of Baler, Tayabas (September 14 and 15). It continued into the Lingayen Gulf, passing between Dagupan, Pangasinan, and Baguio, Mountain Province. During the afternoon of September 15, it suddenly changed its course to the west. The next day, it was moving WNW, after which it inclined WSW and filled up near Hainan Island. Baler reported the barometric minimum of 727.30 millimeters (28.634 inches), with west winds decreasing from force 12 to force 6 as the center passed north of the station. No lives were lost. The area of destruction was not wide and consisted chiefly of bridges destroyed and a few roads washed out by the rains. Casiguran, Tayabas, and Baler, Tayabas, suffered most, many people in both towns being left destitute.

*October 1 to 9.*—A disturbance appeared in the Pacific Ocean east of Samar and developed into a typhoon on October 3. It moved WNW, crossed Central Luzon, passing close to and south of Baler, Tayabas (evening of October 4). After passing close to and north of Dagupan, it entered the China Sea (October 5) and continued on a NW course. Gradually inclining to the west, the typhoon finally entered Indo-China, October 9. The lowest minimum reported was that of Baler, 740.07 millimeters (29.136 inches). The number of deaths reported in the newspapers, October 18, was 18. The usual destruction to light material houses occurred. Many strong material houses were damaged, and many crops were lost.

*October 7 to 13.*—A depression crossed the Visayas, inflicting little damage, but intensified and became a typhoon in the China Sea as it approached and entered Indo-China.

*July 12 to 16.*—A depression formed in the Pacific Ocean about 400 miles east of Central Luzon and moved WNW, crossing northern Luzon and entering the China Sea. It filled up over the northern part of the China Sea.

It will be seen from the above that the Philippines was not afflicted as much this year as during the preceding year, when nine typhoons crossed some part of the Archipelago.

*August 1.*—Extensive floods occurred over the provinces of Central Luzon. Three typhoons all distant, were the cause of these floods. Two July typhoons caused rains which saturated the ground and a third typhoon early in August with more rain, which could not be absorbed by the ground. These typhoons are briefly described as follows:

*July 14 to 21.*—A typhoon formed off Samar moved NW to a position about 200 miles ENE of Manila where it changed its direction to the SSW, reached a position about 1.0 miles east of northern Formosa and turned to the NW, moving into China.

*July 15 to 21.*—A typhoon formed south of Guam moved NW, then N and then NW reaching a position about 200 miles north of Guam. From this place, it moved WNW (starting July 21th), across the Pacific, and crossed the central part of Formosa on July 24th.

*August 1 to 7.*—A typhoon formed 600 miles east of Balintang Channel, thus typhoon moved WNW across Formosa and entered China on August 6 and 7, a secondary disturbance of considerable intensity developed over the western part of the Balintang Channel and moved WNW with the primary site the continent.

It is quite evident that at no time was the Archipelago in any danger from the centers of these typhoons. Yet the rains which accompanied the storms left a sad tale of distress behind them. The July typhoon prepared the way by soaking the ground and the third typhoon, following so soon, caused the floods which were at their height August 3. Whole provinces were under water, at least three feet deep. The redeeming feature was that there was no wind. The Agno and the Pampanga Rivers overflowed their banks. Roads were inundated so that traffic could not pass. The Manila Railroad had to suspend operations until the waters subsided, which, fortunately, happened very quickly. In the newspapers of August 9, 1935, 265 deaths were reported, much less than was expected.

There was no change in the total number of the Weather Bureau stations but the number of cooperative stations is two less this year (1935) four stations being discontinued and two new stations added. The latter are United Paracale Mining Company, Paracale, Camarines Norte and Itogen Mining Co., Itogen Mountain Province. Those discontinued are as follows: Malolos, Bulacan; Quezon, Nueva Ecija; Dalaguete, Cebu; and Hacienda El Porvenir, Tayug, Pangasinan. Nine first-class stations, nine second-class stations, 29 third-class stations, 6 rain stations, 2 seismic stations, and 130 cooperative stations complete the list of stations for 1935.

In 1934 85 barometers were tested. Up to October 28, 1935, 76 had been tested.

*Pilot balloons.*—The of pilot balloons was January, 1935, the in tions in the use of the The regulation balloon until May because cylinder for inflat ng station equipment. The Weather Bureau expense. Thus, when were ready to follow. One ascent per day in groups of two men es. Then, July 1 and afternoon, but can

When sufficient pressure man took over the inflating the balloon, difficult part of all, the keeping the balloon eighty minutes. The seventy and eighty require light winds and currents required to be the observatory now being carried out.

*Pan-American Airways.*—A timber, cooperation project of flying planes was inaugurated. Weather Company and arranged navigators in the p Vanuatu

2. SEIS

*Seismic section.*—The year occurred on May 22, off the southern end of life resulted. Seven died in southern Samar.

The total number of deaths for the year was 864. Five hundred and twenty-four were at various distant

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October 23, 1935.

*Pilot balloons.*—The study of upper air currents with the help of pilot balloons was begun at the Weather Bureau this year. In January, 1935, the training of the personnel began with instructions in the use of the theodolite and practice with toy balloons. The regulation balloons arrived in February, but were not used until May because of the construction of a shelter for the gas cylinder for inflating the balloons and the preparation of the station equipment. The water was hauled at the Observatory by the Weather Bureau mechanician, thereby saving considerable expense. Thus, when the gas was obtained in May, the men were ready to follow practice ascents of the regulation balloons. One ascent per day was the program carried out, with two groups of two men each following the balloon with the theodolites. Then, July 1, two ascents per day look place, morning and afternoon but only two men were assigned for each time.

When sufficient practice had been obtained (September 30), one man took over the care of the observation, that is, from inflating the balloon, setting up the theodolite, and the most difficult part of all, the reading and writing of the angles while keeping the balloon in view. One balloon was followed for eighty minutes. There were three ascents lasting between eighty and eighty minutes. These are exceptional, for they require light winds and clear days. The real study of the upper air currents requires regular ascents timed as close as practicable to the observations used for the weather maps, which is now being carried out at the Observatory.

*Pan-American Airways.*—Late in August and early in September, cooperation with the Pan-American Airways in their project of flying planes from the United States to the Orient was inaugurated. Weather observations were supplied to the Company and arrangements made for giving information to the navigators in the plane when traveling between Guam and

#### ACOUSTIC AND MAGNETIC DIVISION

*Seismic section.—*The strongest Philippine earthquake of the year occurred on May 24 at 1:38 p. m. in the Philippine Deep, off the southern end of Samar, but no serious damage or loss of life resulted. Several other moderately strong shocks were felt in southern Samar and eastern Leyte during the year.

The total number of earthquakes recorded in Manila during the year was 864. Fourteen earthquakes the centers of which were at various distances, were felt in the city of Manila. One

hundred and forty-six earthquakes were reported as felt in the Philippines.

In response to special requests received during the year, Manila seismograms were loaned to the following foreign observatories and scientific institutions: Leeds, England; Colaba Observatory, Bombay; the University of California; the Reichsanstalt für Erdbebenforschung, Jena, Germany; Central Meteorological Observatory, Tokio, Japan; the Geophysical Laboratory, St. Louis, Missouri.

The semiannual reports of 1934 were issued during the year. The monthly bulletins have been issued without interruption. The semiannual report, January-June, 1935, was sent to press.

The Chief of the Division published an important article, "Tectonic Lines of the Philippine Islands," in the semiannual report, July-December, 1934.

During the year the formation of a Standing Committee on Seismology of the Pacific Science Congress was completed and the Chief of this Division was included in the personnel. Also during this year the Executive Board of the National Research Council of the Philippine Islands created a Section of Seismology in the Division of Physical and Mathematical Sciences. The Chief of the Seismic Division of the Weather Bureau was appointed chairman of this new Section of Seismology.

The Section of Seismology of the National Research Council, through the coöperation of Dr. Gabriel Mafalac, Assistant Director of Education, has inaugurated a system by which reports of perceptible earthquakes are obtained from the public school teachers throughout the Islands. These reports are transmitted to the Weather Bureau and although the system has been in operation but two months it has given very valuable assistance.

*Magnetic section.*—A satisfactory comparison of this year's magnetic activity with that of last year cannot be made on the basis of ten month's operation.

There have been thirty-three disturbances, of which six were strong, thirteen moderate, and fourteen light. Two of the strong disturbances were conspicuous, April 8 to 13, and September 9 to 12.

Absolute observations were made twice each month.

The reduction of hourly values for publication has been carried on continuously. The report for 1931 was issued in May of this year, and the report for 1932 is expected from the printer in the near future. The reports of the magnetic character of

days have been prepared and sent quarterly to Holland for publication in the International Bulletin.

Magnetic data have been sent twice a month by Naval Radio to Science Service, Washington, for inclusion in the broadcast of cosmic data.

#### THE FIBER INSPECTION SERVICE

*Activities.*—On November 14, 1935, the Fiber Inspection Service was engaged in maintaining, as in previous years, a uniform standard of classification of abacá and other Philippine fibers; in keeping a close supervision over the work of all the different grading and baling establishments; in making a thorough inspection of the grading of all fibers intended for export; and in furnishing the trade with statistical data concerning the balings, exports, and stock of Philippine fibers duly inspected and approved.

*Stations.*—On the same date the following Fiber Inspection stations were being maintained by the Fiber Inspection Service: Manila, as district station No. 1; Cebu, as district station No. 2, with Malitbog and Baybay, Leyte, as substations; Davao, as district station No. 3, with Talomo, Daliaon, Pantukan, and Madaum as substations; and Legaspi, Albay, as district station No. 4, with Tabaco, Albay; Tigaon and Sabang, Camarines Sur; and Bulan, Sorsogon, as substations. In all of the above-mentioned inspection stations fibers graded and baled by duly licensed fiber-grading establishments are regularly inspected and corresponding certificates of inspection are issued at the central office of each district.

There were a total of 52 grading and baling establishments at the close of November 14, 1935, distributed as follows:

Manila .	7
Cebu:	
Cebu .....	8
Leyte:	
Malitbog	1
Baybay	1
Tacloban	1
Davao:	
Davao .	6
Talomo	1
Daliaon	1
Malita	1
Madaum	1
Pantukan	1

Albay:		5
Leyte		2
Ligao		3
Tabaco		2
Catanduanes		2
Camarines Norte:		1
Dauet		
Camarines Sur:		
Naga		1
Sabang		2
Tigaon		1
Iriga		1
Sorsogon:		
Bulan		2
Casiguran		2
Gubat		1
<b>Total</b>		<b>52</b>

During the period from January 1 to November 14, 1935, the following number of bales of each kind of fiber were inspected and approved by the Fiber Inspection Service, as compared with those of 1934 and 1933:

	Jan. 1 to Nov. 14	Jan. 1 to Nov. 15	Jan. 1 to Nov. 15
	1935	1934	1933
Abra			
Dioscorea	1,312,880	1,271,202	1,058,627
Manila	3,136	6,875	2,454
Cassava	110,667	72,480	57,181
Paspalum	36,444	38,891	36,576
	6	(none)	(none)
<b>Total</b>	<b>1,468,083</b>	<b>1,389,448</b>	<b>1,164,788</b>

#### THE STATISTICS DIVISION

*General statement.*—As in the past, the Statistics Division has undertaken the collection, compilation, systematization and publication of statistical data relative to agriculture and livestock; commerce and industry; transportation and communication; finance; demography, including population, education, health, and vital statistics; forestry; fishing; labor; lands; and miscellaneous data.

*Inquiries.*—Up to October 30, 1935, the Division of Statistics had handled and disposed of 8,008 inquiries distributed as follows:

Agriculture	4,452
Commerce	3,556

Of these 1,316 inquiries were from parties abroad; while 6,692 inquiries were from parties in the Philippine Islands.

*Reports compiled.*—Up to October 30 the Division compiled 21,299 crop reports, 29,170 livestock reports, 5,040 mining reports, and 89,100 trade reports.

*Publications.*—As a result of the compilations undertaken, the Division published the following:

(a) Volume II, Nos. 1 and 2 of the "Philippine Statistical Review" which continued the issues of last year. A supplement to Volume II entitled "Social and Economic Information About the Philippine Islands" was also issued. This publication contains facts and statistical data on approximate area, potential area available for agricultural, industrial, and other purposes, except forest, area actually cultivated, population as of July 1, 1935, unemployed, wages, school population 1933-1934, public-school enrollment; Philippine Islands government hospitals, patients attended, dispensaries, and treatments, U. S. government hospitals, private hospitals, puericulture centers, 1933, mothers attended, children attended; value of agricultural production, value of production of 41 leading crops, 1934; assessed value of real estate, 1934, real estate assessment (per capita); auto repair shops, bakeries, bars, bowling alleys, brass bands, cines, cockpits, dance halls, drug stores, electric plants, funeral parlors, gasoline stations, gross sales, hotels, ice plants, internal-revenue collections, kiskisans, motor vehicles registered (autos, trucks, and motorcycles), municipalities and municipal districts, orchestras, photographic studios, pool rooms and billiard halls; professionals in active practice—lawyers, physicians, pharmacists, dentists, engineers, and opticians; refreshment parlors, restaurants, retail stores—Filipino, Chinese, Japanese, American, Hindu, and others; rice mills, rice warehouse, roads and bridges (first class, second class, and third class); shoemakers, slipper makers, sugar centrals, tailor shops, transportation companies, value of animal and animal products, 1933, and animal population. Information and data by provinces have likewise been included in the supplement.

(b) Revised Monographs on National Income and National Wealth.

(c) Economic Dial of the Philippine Islands, 1935. This Dial is similar to that published last year but contains different information. Among the subjects covered are agricultural production, principal products, livestock wealth, income, gross

sales, real property tax, public-school enrollment, and registered voters.

(d) The "Statistical Service Sheet" is a continuation of the Statistical Service Sheet which the Division has been issuing every Monday. It contains data on corporate investments, postal money orders, stock exchange, mortgages registered, motor registration, radio registration, livestock, poultry and eggs, building and construction, and vital statistics.

*Exchange of publications.*—The Division maintains a regular exchange of publications with 41 countries of the world. Up to October 30 the Division received a total of 403 yearbooks, pamphlets, and other statistical publications.

*Trade studies.*—Facts and figures about Philippine trade with the United States, Japan, and China, respectively, were prepared in mimeographed form. These studies contain such information as Philippine overseas trade, with five leading countries, showing share of the United States; fourteen leading markets of the United States; exports showing the rank of the Philippine Islands; Philippine trade with the United States; Philippine trade with the United States and the Far Eastern countries; Philippine imports in which United States ranks first; Philippine imports in which United States lags behind other countries; Philippine exports to the United States; Philippine imports from the United States; carrying trade with the Atlantic and Pacific United States and values of American goods imported from foreign countries; inward and outward movement of vessels direct from and to foreign ports and Philippine ports of entry; American investments in the various industries of the Philippine Islands as of January 1, 1933; economic inventory of the Philippines; Philippine overseas trade showing rank of Japan's share; Philippine trade with Japan; Japan's share in Philippine trade with the Far Eastern countries; share of Japan in Philippine overseas trade; Philippine exports to Japan; Philippine imports from Japan; values of cargoes carried by vessels of various nationalities engaged in the foreign trade of the Philippines; number and net tonnage of vessels carrying trade with the Philippines, by nationality; Japanese participation in Philippine domestic (retail) trade; Japanese investments in the Philippines; Philippine overseas trade showing rank of China's share; Philippine trade with China; share of China in

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Philippine overseas trade; Philippine imports from China; Philippine exports to China; values of cargoes carried by vessels of various nationalities engaged in foreign trade of the Philippines; number and net tonnage of vessels carrying trade with the Philippines, by nationalities; Chinese participation in Philippine domestic (retail) trade; Chinese investments in the Philippines; and rates of import duties in China.

*Participation in the 1935 Carnival.*—The most unique presentation of statistical information was exhibited during the 1935 Manila Carnival. The booth of the Division bore the sign "Three Decades of Progress" in Neon lights clearly outlined against the sky. Statistics represented the state of progress of the Philippines in agriculture, livestock, trade, roads and bridges, transportation and communication, population, sanitation, public school enrollment, bonded indebtedness, government income, and monetary circulation, in 1903, 1913, 1923, and 1933. Pictures had been beautifully and proportionately made to show progress or retrogression. As a result of these unique exhibits the Division was given two first prize gold medals and two first prize diplomas for excellence in presentation.

*Cooperation with other offices.*—The ten months from January 1, 1935, were unusually busy months for the Statistics Division. As in the past, this office closely cooperated with various Philippine governmental offices, such as the Bureaus of Commerce, Plant Industry, Animal Industry, and Science; the Office of the Governor-General, the Office of the American Trade Commissioner in Manila, the Department of the Interior, Department of Finance, the Office of the Speaker, Members of the Philippine Legislature, and with the newspapers in Manila, particularly the D-M-H-M in which most of the statistical data appearing in the Third Volume of the Philippine Yearbook had been compiled and prepared in the Division of Statistics. This Division cooperated also with the various Technical Committees.

*Statistical summary.*—A statistical summary of the work accomplished by the Division of Statistics is given below:

	S. O. S.	S. O. S.
Inquiries	1,000	7,384
Correspondence handled	1,000	682
Callers	1,000	1,000

	Nature of activity	Number
<b>Other activities:</b>		
<b>Compilation—</b>		
Crop reports .....		21,299
Livestock reports .....		29,170
Trade reports .....		39,100
Mining reports .....		5,040
<b>Summarization—</b>		
Crops .....		11,912
Centalizing data (items)		9,973
<b>Totalization (items)</b> .....		999,612
<b>Averaging (items)</b> .....		46,054
<b>Checking (items)</b> .....		190,795
Gathering data (items)		213,050
Transferring data (items)		121,026
Assembling blank forms (sheets)		256,157
Mimeographing .....		40,529
Stamping wrappers .....		19,556
Writing names of municipalities in compilation books		106,058
Recording		13,579
<b>Typing—</b>		
Tabulation (pages) .....		3,692
Correspondence and plain copy (pages)		7,274
Envelopes addressed .....		16,759
<b>Number of publications distributed—</b>		
Statistical Handbook of the Philippine Islands, 1932		97
<b>Philippine Statistical Review—</b>		
<b>Volume I—</b>		
No. 1		486
No. 2 .....		569
No. 3 .....		756
No. 4 .....		784
<b>Volume II—</b>		
No. 1		489
No. 2 .....		673
<b>Economic survey</b> .....		2
<b>Economic dial</b> .....		233
Statistical service sheet		11,170

#### THE PUBLICATIONS DIVISION

There was considerable progress in all branches of service of the Publications Division, as may be noted in the following figures:

In 1934, 40 publications were prepared while during the period reported 45 publications were prepared.

In 1934, 39 publications were released or one publication every 8 days, while in 1935 (up to November 14) 66 new publications

were issued, making a total of 72 publications or one publication **every 5 days**.

The Division edited or supervised the editing of the Philippine Journal of Science, the Philippine Journal of Agriculture, the Philippine Journal of Commerce, and the Philippine Journal of Animal Industry.

The Division continued during 1935 its services to the bureaus, divisions, and offices of the Department of printing forms, circulars, and office orders; in taking photographs for them; and in binding books for them, especially for the Scientific Library Division.

*Bulletins and pamphlets.*—Three original bulletins were prepared during the year, as follows:

Industrial Shells of the Philippines (Popular Bulletin 5).

Edible Fishes of Manila (Popular Bulletin 6).

Mineral Resources of the Philippines, 1926-1933 (Technical Bulletin 3).

*Annual reports.*—Six annual reports were sent to the printer, as follows:

Department Annual Report for 1934.

Bureau of Lands Annual Report for 1934.

Bureau of Plant Industry Annual Report for 1934.

Bureau of Commerce Annual Report for 1934.

Bureau of Animal Industry Annual Report for 1934.

Bureau of Forestry Annual Report for 1934.

*Miscellaneous editorial work.*—A member of the editorial staff of the Division was detailed as a publicity officer of the Agricultural and Commercial Exposition held in connection with the 1935 Carnival, and prepared a guide to this exposition, copies of which were distributed to the people who visited the exposition.

Another member of the editorial staff was detailed to act as secretary to the subcommittee of program and ceremonies of the inauguration of the Commonwealth of the Philippines, and prepared and supervised the printing of the program of the inauguration.

Another member of the staff was detailed on part time basis to the Home Economics Division of the Bureau of Science to help in its propaganda work.

*Publications released.*—During the period under review, 66 new publications were released and 6 publications were reissued.

making a total of 72 publications, or an increase of 82% over the 39 publications released in 1934. These publications are:

	Issues
The Philippine Journal of Science	13
The Philippine Journal of Agriculture	3
The Philippine Journal of Commerce	13
The Philippine Journal of Animal Industry	6
The Philippine Statistical Review	5
Annual Reports .....	8
Bulletins	8
Other new publications .....	15
Publications reissued .....	8
 Total	 72

The other publications released are as follows:

*Annual Reports:*

Department Annual Report for 1934.

Bureau of Lands Annual Report for 1934.

Bureau of Plant Industry Annual Report for 1934.

*Bulletins:*

Department Popular Bulletin No. 4. Poultry Raising.

Functions and Organization of the Department of Agriculture and Commerce.

Department Technical Bulletin No. 2. Manual of Regulations Governing Land Surveys.

Service Manual for Public Land Inspectors.

Cotton Culture (Tagalog).

Bureau of Animal Industry Bulletin No. 11. Turkey Raising.

Department Popular Bulletin No. 5. Industrial Shells of the Philippines.

Guide to the Second Agricultural and Commercial Exposition.

*Other publications:*

Gourami Culture (Tagalog).

Frog Culture (Tagalog).

How to Preserve Eggs (Tagalog).

The Cashew (Tagalog).

Irish Potato (Tagalog).

The Duck Industry (Tagalog).

Avian Pest (Tagalog).

Bermuda Onion (Tagalog).

First Aid, by Isabel Ferrer.

Fundamental Operations in Bead Arithmetic.

Budding and Grafting (Poster, English).

Lowland Rice (Poster, English).

Citrus (Poster, English).

Citrus (Poster, Tagalog).

Bermuda Onion (Poster, English).

*Reissued publications:*

Corn Culture.  
Lumbang.  
Arrow Root.  
Irish Potato.  
Cacao.  
Kapok.

During the period under review over 40,000 publications were distributed as follows:

	Copies
Bulletins .....	1,502
Circulars and pamphlets .....	11,160
Reports .....	384
Other publications .....	410
The Philippine Journal of Science .....	13,000
The Philippine Journal of Agriculture .....	2,400
The Philippine Journal of Commerce .....	13,000
The Philippine Journal of Animal Industry .....	2,280
The Philippine Statistical Review .....	2,300
 Total <sup>1</sup>	 46,436

**THE NAVIGATION DIVISION**

*Operation of vessels.*—During the period under review the following vessels were in operation: *S. S. J. Bustamante*, Cutter *Banahaw*, Cutter *Canlaon*, Launch *Ethel*, and Seow No. 3.

The steamers were maintained for the general steamship service of the Government, especially for those that are not ordinarily obtainable from commercial vessels.

*Transportation of high government officials.*—The President of the Senate, the Speaker and members of the House of Representatives, the Vice-Governor General, and Department Secretaries were among the high officials who used the vessels of the Navigation Division during the year. The Cutter *Canlaon* was placed at the disposal of the Commanding General of the U. S. Army and party, during their tour of inspection to the North in July, during which the first airplane landing field in the Batanes islands was established. The Governor-General did not use any of the vessels of this Division during the year, but one chief officer continued to be assigned on the Cutter *Arayat* of the Bureau of Customs, which was used as the Governor-General's yacht.

*Police duties.*—Besides the transportation service rendered by the vessels, the Navigation Division has been designated to co-

operate with the enforcement of the Fish and Game as well as the Customs laws. For this purpose, the captain and chief officer of each vessel have been appointed agents of the Constabulary and of the Bureau of Customs, and all the officers and engineers of the vessels as well as the lightkeepers have been designated game wardens. Due to lack of vessels, the police duties of this Division were performed by the Cutters during the lighthouse trips, which extended their cruises for patrol purposes.

*Emergency relief service.*—During public calamities, such as the results of typhoons or floods, the vessels were used in transporting relief parties, supplies, and medicine. When a severe typhoon hit the eastern Visayas in May, the Cutter *Cardona* suspended its inspection of the lighthouses and went on relief work, making several trips between Cebu, Bulan, Catbalogan, and Borengan, with medicine, flood supplies, building materials, and Red Cross personnel. The same Cutter was utilized to transport relief expedition to the North when land transportation from Manila was paralyzed during the flood in August. Other emergency trips were made by the Cutter *Banahao* in July to assist a missionary launch in Araceli, Palawan, and by the S. S. *J. Bustamante*, which was dispatched during the same month to answer a distress call from Tubbataha light station when a lighthouse boatman shot and killed the head-lightkeeper, and wounded another keeper.

*Mail transportation service.*—In addition to the carrying of mails to the ports where commercial vessels frequently call, the Cutters were sent to furnish transportation and communication to places that, due to lack of sufficient business, are very seldom visited by commercial steamers, among these Cagayan de Sulu and Cagayancillo in the Sulu Sea.

*Collection and segregation of lepers.*—The S. S. *J. Bustamante* made two trips in connection with the leprosy work of the Government. During the first trip from July 5 to 28 she called at 25 ports in the Visayas, Mindanao, and Sulu, collecting lepers for segregation at Culion. She also made trips between Iloilo, Cebu, and Culion transporting relatives of lepers who were allowed to visit in Culion. During the second trip the S. S. *J. Bustamante* went to Culion, Cebu, and Iloilo with the Governor-General's Leprosy Committee headed by Major George Dunham, medical adviser of the Governor-General. Besides these two trips of the S. S. *J. Bustamante*, the Cutter *Cardona* during her lighthouse trip in September was ordered to stop at Culion and transport 200 nonleprosous children to Manila.

*Cable work.*—The S. S. *J. Bustamante* is equipped for laying and repairing the submarine telegraph cables of the Government. The continued increase of radio stations in the Islands had diminished the need for interisland communication by cables. During the period under review there was no cable repair work done by the S. S. *J. Bustamante*.

*Trade-promotion work.*—The annual commercial exposition tour of local manufacturers and business men under the auspices of the Bureau of Commerce was made on the S. S. *J. Bustamante* during April and May. The trip was combined with the inspection of lighthouses. The vessel called at 25 ports in the Visayas, Mindanao, and Sulu where Philippine-made articles were exhibited and sold to the public.

*Lighthouse work.*—As lighthouse tenders, the vessels of this Division were used for the inspection and supplying of the lighthouses; the transportation of the lightkeepers and their families, construction men and materials; and the preservation of the buoys and beacons. The Archipelago was divided into five routes for lighthouse inspection purposes, allowing two visits at each station during the year. However, other stations were visited more frequently, especially Tubbataha, the most isolated station in the Sulu Sea.

During the period under review the steamers of this Division made 21 trips, travelled 20,549 nautical miles, and called at 649 places. They carried 1,305 passengers and 370,616 kilograms of cargo and consumed 592,334 gallons of fuel oil.

The launch *Ethel* was utilized for the general transportation work of this Division in the Manila Harbor and Laguna Lake. She is fitted with high-power fire-extinguishing apparatus and was used to cooperate with the City Fire Department during a conflagration near the water front. The wooden scow was used in connection with the loading and unloading of the steamers of this Division.

At the end of the period under review, the vessels of this Division were in fair condition. The Cutters *Banahaw* and *Cancalan*, which were built in 1931, are in first-class condition. Only minor repairs were made on them during the year. However, the steamer *J. Bustamante*, an old Spanish vessel built in 1904, requires extensive repairs. Due to lack of funds, only those repairs that were absolutely necessary were made on this vessel during the year. The steel hull as well as the main engine are in fair condition, but the docks and other super-structures are in poor condition. The steel launch *Ethel* is also in fair con-

dition. The wooden scow, however, is very old and needs to be renewed.

*Lighthouse service.*—The general organization of the Lighthouse Service remained unchanged during the period under review. It continued as a section under the administrative unit of the Navigation Division.

At its meeting held February 25, 1935, the Lighthouse Board for which the Lighthouse Section performs secretarial work passed upon twenty-one petitions for the establishment and improvement of aids to navigation. Of these, sixteen were disapproved, four approved, and one laid on the table for further discussion.

During the period covered by this report no new lighthouse was established, although the repair projects were undertaken and completed under the immediate supervision of this Division.

*Construction.*—In view of the insufficiency of the funds appropriated for "the construction of lighthouses, buoys, beacons and other aids to navigation," amounting to only ₩50,000, it was impossible to undertake all the new lighthouse construction projects passed upon and approved by the Lighthouse Board. Thus, it became necessary to choose from among them those which, because of their comparative importance to navigation in general, deserve preferential consideration. These are:

*Cabeza de Tablas, Ronblon.*—For the construction of one 62-foot steel tower, 4-room dwelling, 3-room kitchen, bodega-oil house, toilet, water tank, flag pole, bodega on the beach, and service road from the landing place to the station.

*Balganen, Pamuy.*—For the conversion of the present acetylene light to attended one by improving the existing steel-framed tower, and constructing a 4-room dwelling, 3-room kitchen, bodega-oil house, toilet, water tank, and flag pole.

*Misamis, Misamis.*—For the construction of a standard concrete beacon tower for a port light.

*Lane, Tablas Island, Ronblon.*—For the construction of a standard concrete beacon tower for a port light.

*Osmeña Fountain, Cebu.*—For the construction of a platform where to set the apparatus of the light to be established in range with the San Nicolas light.

Pursuant to the written agreement previously entered into with reference to new lighthouse-construction projects, the Bureau of Public Works will handle and supervise the execution of the above-mentioned projects. The preparation of the plans and estimates of the probable cost of executing the work needed is now underway, and it is expected that early next year these projects will be completed.

### THE VETERINARY EXAMINING BOARD

*Organization.*—This Board is composed of three members appointed by the undersigned to hold office for a term of one year. Under General Memorandum Order No. 30-1, dated February 28, 1935, Dr. Vicente Ferriols was appointed chairman and Drs. Teodulo Topacio and Faustino Turla members of the Board for 1935. The Director of Civil Service conducted the examination given by the Board in his capacity as executive officer under section 10 of Act 4007.

*Applications and examination.*—During the period from January 1 to November 14, 1935, the Board gave only one examination, May 2-4, 1935. Fourteen applications were filed for this examination. Out of 14 candidates 13 passed, or 93 per cent of those examined.

*Registration.*—Fourteen new veterinarians were registered during the period covered by this report, including Dr. Manuel Pascua, who passed the examination in 1934 but was registered only May 8, 1935, following his exoneration from charges of immorality.

### THE BOARD OF EXAMINERS FOR SURVEYORS

*Organization.*—On January 14, 1935, pursuant to the provisions of section 10 of Act 4007, the sixth Board of Examiners for Surveyors was duly appointed composing of the following:

Mr. Juan Coronado .....	Chairman
Mr. Antonino Manahan .....	Member
Mr. Teodosio Trinidad .....	Member

These members assumed the duties of their respective offices January 21, 1935, the date when the oath of office was taken.

*Meetings.*—The organization meeting of the Board was held in the office of the Chief of the Division of Surveys, Bureau of Lands, Manila, January 18, 1935. In this meeting Mr. Teodosio Trinidad was elected Secretary of the Board in accordance with Administrative Order No. 1. Ten administrative cases were assigned to each member for study and preparation of the corresponding decisions. Other minor matters were also considered.

The second meeting was held May 23, 1935. The Board was called upon to act on the resignation of its secretary, Mr. Teodosio Trinidad, who was assigned to Davao Province. Surveyor Jose Suguitan of the Bureau of Lands was appointed on May 8, 1935, effective May 1, 1935, to relieve Mr. Trinidad. In addition to these matters, nine resolutions were approved by the Board. They refer to various matters of administration.

The following administrative cases were decided upon by the Board:

1. Administrative case No. 189 - The Director of Lands *vs.* Fabian K. Aglongal. The respondent surveyor was suspended for four months from the practice of his profession.
2. Administrative case No. 190 - The Director of Lands *vs.* Julian Lagman. The case was dismissed for lack of sufficient evidence.
3. Administrative case No. 196 - The Director of Lands *vs.* Pedro Bunday. The case was dismissed for lack of sufficient evidence.
4. Administrative case No. 199 - The Director of Lands *vs.* Juan C. Bautista. The respondent was found guilty of the charge and six months suspension was imposed upon him.

The fourth meeting was held in the office of Mr. Antonino Manahan, at Calle Rosario, August 21, 1935. The following administrative cases were decided:

1. Administrative case No. 194 - The Director of Lands *vs.* Antonio La-migo. The penalty of eight months suspension from the practice of his profession was imposed upon the respondent.
2. Administrative case No. 191 - The Director of Lands *vs.* Nicolas de Leen. This case was dismissed for lack of sufficient evidence.
3. Administrative case No. 192 - The Director of Lands *vs.* Jose M. Velasco. The case was dismissed for lack of sufficient proof.
4. Administrative case No. 197 - The Director of Lands *vs.* Jose Castro. **This case was dismissed for lack of evidence.**
5. Administrative case No. 255 - Rosario Suero *vs.* Agapito S. Padilla. The case was dismissed concurring with the recommendation of the then **Division Inspector Maurice W. Tuttle.**
6. Administrative case No. 255 *b* - Angel Gehlang *vs.* Agapito S. Padilla. The case was dismissed because the respondent has complied with all requirements.
7. Administrative case No. 243 - Pedro Clamor *vs.* Alfonso A. Arboleda. Administrative case No. 243 *a* - Pedro Amparo *vs.* Alfonso A. Arboleda. These cases were dismissed for lack of merit and lack of interest on the part of the complainants.
8. Administrative case No. 289 - Ponceano Mercado *vs.* Alfredo Dural. The case was dismissed but the complainant was required to file again his complaint in due form.
9. Administrative case No. 230 - Claudio Mira *vs.* Andres Santos. The case was dropped for having been amicably settled.
10. Administrative case No. 228 - Alfredo B. Celestial *vs.* Amado A. Navarro. The case was dismissed for lack of interest of the complainant.
11. Administrative case No. 281 - Filomeno Arcinas *vs.* Amado A. Navarro. The complainant was requested to file his complaint in due form; otherwise it is automatically dismissed for lack of interest.
12. Administrative case No. 229 - Elias Elizalde, et al. *vs.* Andres Tua. The case was dismissed for lack of interest of the complainant.
13. Administrative case No. 230 - Leontardo Tercero and Fidel P. Jimaz *vs.* Angel Royen. The respondent was given opportunity for another hearing.

14. Administrative case No. 287—Magdalena Linsao *vs.* Angel Royeca. The complainant was required to submit her complaint in due form.

15. Administrative case No. 211—Adela Visconde *vs.* Apolinar N. Feliciano. The case was dismissed for lack of merit.

16. Administrative case No. 269—Anastacio Halili *vs.* Demetrio Resurrección. The respondent was given opportunity for another hearing.

17. Administrative case No. 272—The Director of Lands *vs.* Juan C. Bautista. The respondent was given opportunity for another hearing.

Two other resolutions were approved by the Board for minor matters of administration.

The fifth meeting was held in the office of member Antonino Manahan at Calle Rosario, Manila, August 31, 1935, for the final consideration of the ratings of papers for the examinations given by the Board on June 4-6, 1935.

The sixth meeting was held at the Bureau of Civil Service, Manila, September 7, 1935, for the final grading of the education and experience of the 29 candidates for the last examination given by the Board.

The seventh meeting was held at the Bureau of Civil Service, Manila, September 13, 1935, for the final computation and revision of general averages of all candidates in the examinations given June 4-6, 1935.

The eighth meeting was held in the Bureau of Lands Office at Manila, September 19, 1935, to consider administrative case No. 198 entitled "Director of Lands *vs.* Guillermo de la Cruz" and case No. 193 entitled "Doroteo Soriano *vs.* Cornelio Napil." These cases were dismissed for lack of sufficient evidence.

The ninth meeting was held at the house of the Chairman at 2634 Herran, Sta. Ana, Manila, September 21, 1935 for the consideration of various matters and the following administrative cases:

1. Administrative case No. 268—Fortunato Barquez *vs.* Lucio Ridad. Private Land Surveyor Lucio Ridad was exonerated from having committed any violation of regulations governing land surveys.

2. Administrative case No. 208—Numeriano Infante *vs.* Gregorio Corcuera. This case is the same as case No. 232, hence it was dropped from the list of cases.

3. Administrative case No. 262—The Director of Lands *vs.* Justo Ocampo. This case was dropped from the list of cases as there were no defects of surveys referred to in the complaint.

4. Administrative case No. 280—Manuel Peña *vs.* Placido Santos. This case was dropped from the list because of the absence of the papers of the original complainant.

The following administrative cases were also dropped from the list of pending cases for the reasons given:

5. Administrative case No. 284—Cecilio G. Tamayo *vs.* Emilio Cabrera. **Mr. Cabrera has died.**
6. Administrative case No. 286—Guillermo Barba et al. *vs.* Mariano Alcantara. **This case is the same as case No. 303.**
7. Administrative case No. 288—Ariston T. Dawang *vs.* Felipe V. Jose. **The same case as 294.**

The following administrative cases were dismissed for the reasons given:

8. Administrative case No. 212—Benigno Genie *vs.* Julian B. Loleng. **For lack of merit.**
9. Administrative case No. 214—Escolastico Simpao *vs.* Felipe V. Jose. **For being not in due form. The complainant was asked to submit his complaint.**
10. Administrative case No. 216—Pascual R. Pidong *vs.* Pedro Terrado. **For lack of interest on the part of the complainants.**
11. Adinistrative case No. 219—The Director of Lands *vs.* complainant *vs.* Eduardo Reyes. **The complainant refused to testify in on investigation.**
12. Administrative case No. 223—Roman L. Cruz *vs.* Pedro Terrado. **For lack of interest on the part of the complainant.**
13. Administrative case No. 241—Graciano Alcantara *vs.* Pedro Terrado. **For lack of interest on the part of the complainant.**
14. Administrative case No. 250—Gregorio Zaleta *vs.* Paulo Pumarada. **For lack of interest on the part of the complainant.**
15. Administrative case No. 263—The Director of Lands *vs.* Juan Ungson (for complainant). **The respondent can not be held responsible for the causes of the charges.**
16. Administrative case No. 271—Dionisio Isaac *vs.* Marcos Malaban. **The complainant was found not the owner of the land involved in the complaint.**
17. Administrative case No. 273—Francisco Domingo *vs.* Placido Santos. **For lack of interest on the part of the complainant.**
18. Administrative case No. 282—Pio Refuerzo *vs.* Leoncio Daeanay. **The complaint was found to be without merit.**
19. Administrative case No. 291—Luis Sevilla *vs.* Florentino Calderon. **For lack of interest on the part of the complainant.**
20. Administrative case No. 292—Eladio Rubanes et al. *vs.* Paterno Serrano. **For lack of interest on the part of the complainant.**
21. Administrative case No. 293—Virginia Larra *vs.* Placido A. Santos. **For lack of interest on the part of the complainant.**

The respondent surveyors in the following administrative cases were exonerated by the Board:

22. Admistrative case No. 217—Andres Valeriano *vs.* Jose Castro.
23. Administrative case No. 241—Silverio R. Galacinao *vs.* Paulino Apostol.

In this meeting the Board has also taken action on the following administrative cases:

24. Administrative case No. 203—Gaudencio Presentación *vs.* Gervacio Aguinaldo. The complainant was furnished with a copy of the respondent's answer and without his further comment after a long time, the case was considered satisfactory to the complainant and therefore the case was dismissed.

25. Administrative case No. 222—Doroteo Valle *vs.* Pedro Terrado. The parties concerned arrived at an amicable understanding, hence the case was regarded as settled.

26. Administrative case No. 227—Rafael Rivera *vs.* Eugenio Herrera. The complainant was furnished with a copy of the comment of the respondent to the complaint since 1932. His silence since then has led the Board to dismiss the case.

27. Administrative case No. 245—Dalmacio C. Reyes *vs.* Leon Antonio. It was dismissed similar to case No. 227.

28. Administrative case No. 247—Lucio Quijano *vs.* Filomeno Sibuma. Was dismissed similar to cases Nos. 227 and 245.

29. Administrative case No. 253—Municipal Council of Tinambac, Camarines Sur *vs.* Felicísimo Capucao. Regarded as settled similar to the preceding cases and therefore dismissed.

30. Administrative case No. 261—Delfin Pardiñas *vs.* Gervacio Aguinaldo. This was also decided as settled similar to the preceding cases and therefore dismissed.

The tenth meeting was held at the Bureau of Lands, Manila, on September 28, 1935, for the purpose of considering the following administrative cases:

1. Administrative case No. 234—Porfirio Espinosa *vs.* Paterno Serrano. This case was amicably settled by the interested parties hence the Board has decided to dismiss the case.

2. Administrative case No. 207—A. M. Guittard, Sr. *vs.* Paulo Pumarada. The complainant having died, the case was dismissed.

3. Administrative case No. 238—Constancio Y. Espiña *vs.* Gregorio Corcuera. The case was dismissed because the plan of Psu-72278 involved in the complaint was already approved.

4. Administrative case No. 257—The Director of Lands for the complainant *vs.* Gorgonio Palma. The plan involved in the complaint having been approved, the case was dismissed.

5. Administrative case No. 264—The Director of Lands *vs.* Juan G. Herrin. The five surveys subject of the complaint were duly corrected, hence the case was dismissed.

The eleventh meeting was held at the Bureau of Lands, Manila, October 5, 1935, for the consideration of a requested revision of the papers of Messrs. Vicente Alamase, Francisco Briones, Jose D. Garcia, and Clemente M. Cuevas, for the Mineral Land Surveyor and Private Land Surveyors' examination given on June 4-6, 1935.

The twelfth meeting was held at the Bureau of Lands, Manila, October 12, 1935, for the consideration of cases the interested parties of which have neglected to answer the various communications sent to them for comment.

The thirteenth meeting was held in the office of member Antonino Manahan at Calle Rosario, October 26, 1935, for the consideration of the disposition of the 1,000 printed copies of the 1934 Annual Report of the Board.

The fourteenth meeting was held at the Bureau of Lands, Manila, November 14, 1935, for the assignment of Administrative Cases Nos. 258 and 210 to members for proper study and decision. Also Administrative Case No. 259 entitled "Crisostomo L. Silo vs. Wenceslao Manuel" was dismissed for lack of merit.

*Examinations held.*—The Board of Examiners for Surveyors held only the regular examinations for private land surveyors and mineral land surveyors June 4-6, 1935.

Of the eleven applicants in the mineral land surveyors examination given by the Board June 4-6, only ten took the examination and four obtained passing grades.

In the private land surveyors examination given on the same dates, nineteen of the twenty-four applicants took the examination and only ten obtained passing grades.

As in the preceding years, the Director of Civil Service as Executive Officer of the Board of Examiners conducted the examinations given by the Board. The examination questions were prepared and the examination papers corrected by the members of the Board of Examiners for Surveyors.

*Certificates issued during the year.*—During the year only sixteen certificates were issued by the Board pursuant to the provisions of Act No. 3036 as amended by Act No. 3080 as follows:

For private land surveyor.....	11
For cadastral land surveyor....	1
For mineral land surveyor.....	4
Total .....	16

#### V. FINANCIAL STATEMENT

The following tables, prepared by the Supervisor of Accounts of the Department, show the financial status of the various branches of the Department from January 1 to November 14, 1935:

## DEPARTMENT OF AGRICULTURE AND COMMERCE

January 1 to November 14

Item	1935	1934	Change — Increase — Decrease
<b>SALARIES AND WAGES</b>			
Salaries and wages, itemized	2,652,091.13	1,941,498.74	+ 107,495.39
Salaries and wages, lump sum	209,781.31	331,725.59	- 125,188.28
Salaries and wages of lightkeepers	89,661.28	82,702.23	- 6,959.05
Subsistence of officers and crews	30,071.14	31,951.53	- 1,877.39
Traveling allowance to crews of vessels	1,352.11	1,356.89	- 25.22
Ration in kind to lightkeepers, etc	9,646.02	8,842.85	803.17
<b>Total salaries and wages</b>	<b>2,392,372.99</b>	<b>2,403,795.83</b>	<b>- 11,422.84</b>
<b>SUNDRY EXPENSES</b>			
Traveling expenses of personnel	166,774.79	186,734.03	- 19,959.24
Traveling expenses of commercial and cooperative promotional agents	3,374.04	3,259.66	+ 74.48
Freight, express and delivery service	12,717.47	15,360.30	- 2,642.83
Postal, telegraph, telephone, cable and radio service	57,899.71	61,171.94	- 3,272.23
Heating, lighting and power service	18,741.16	19,685.56	- 944.40
Miscellaneous services	20,312.15	40,529.48	- 20,217.33
Rental of buildings and grounds	26,401.89	33,740.81	- 7,339.92
Consumption of supplies and materials	301,498.05	361,883.25	- 60,385.20
Printing and binding reports, etc	19,291.98	57,060.86	- 37,768.88
Traveling expenses of persons not government employees	315.56	415.08	- 99.52
Maintenance and repair of equipment	44,718.44	41,838.40	+ 2,880.04
Procurement of supplies and materials	118,061.53	4,475.53	+ 113,586.00
Extraordinary losses	613.33	1,460.58	- 847.25
<b>Total sundry expenses</b>	<b>790,719.10</b>	<b>827,475.38</b>	<b>- 36,756.28</b>
<b>FURNITURE AND EQUIPMENT</b>			
Purchase of furniture and equipment	18,897.35	67,688.54	- 48,790.69
<b>SPECIAL APPROPRIATIONS</b>			
Locusts and other agricultural pests, Act 3163	29,215.41	29,866.63	651.22
Rinderpest and other animal diseases, Act 3166	40,185.45	44,943.65	- 4,808.20
Classification of public lands	12,323.83	13,151.43	- 827.60
Commercial and industrial investment including equipment	1,753.70	2,798.41	- 1,044.71
Reforestation and afforestation, Act 3283	6,603.31	7,224.39	- 621.02
Investment and survey of homesteads, Act 2874	62,127.31	77,515.50	- 15,388.19
Maintenance and repair of radio apparatus	267.79	2,307.85	- 2,039.06
Commercial agency in U. S. Act 3442	17,042.28	12,677.82	+ 4,366.46
Survey verification fund, Act 3950	23,964.62	20,987.91	+ 2,976.71
Survey and sub division of public lands, Act 4031	71,337.10	72,247.40	- 890.00
Contribution and gratuities, plant diseases	24,330.14	34,384.80	- 10,054.66
Contribution and gratuities, animal diseases	20,775.79	21,714.23	- 938.44
Total special appropriation	310,147.03	340,066.96	- 29,919.93
<b>Grand total, Act 4187</b>	<b>3,512,136.97</b>	<b>3,639,026.71</b>	<b>- 126,889.74</b>

## OFFICE OF THE SECRETARY AND SPECIAL DIVISIONS

Comparative statement of expenditures. Period ended November 14, 1935

Item	January 1 to November 14		
	1935	1934	Increase Decrease
<b>SALARIES AND WAGES</b>			
Salaries and wages, itemized, permanent and temporary			
Salaries and wages, temporary lump sum	223 713.83	154 651.75	+ 69 059.08
Salaries of lightkeepers	17 667.40	72 152.92	- 55 485.52
Subsistence of officers and crews	89 661.28	82 701.23	+ 6 959.05
Charting allowances to crews of vessels	30 074.14	31 961.33	- 1 67.39
Ration in kind to lightkeepers	1 382.11	1 436.89	- 25.28
Total salaries and wages	370,124.78	358,444.17	+ 11 680.61
<b>BUNDY EXPENSES</b>			
Traveling expenses of personnel	2,799.62	3,488.83	699.21
Express, mess and delivery service	263.06	171.92	211.56
Postal, telegraph, telephone, cable and radio service	4,576.13	4,741.30	165.17
Illustrations and power service	3 403.91	3 449.39	- 46.48
Miscellaneous services	3 110.75	3 577.94	667.19
Rentals of buildings and grounds	367.89	675.10	307.11
Consumption of supplies and materials	120,426.05	138,612.46	- 18,186.41
Traveling expenses of personnel not government employees	65.33	66.55	- 1.22
Printing and binding reports, documents and publication	19,201.98	57,600.36	- 37,798.05
Maintenance and repair of equipment	39,424.98	36,248.94	4,176.04
Total sundry expenses	193,836.12	247,397.29	- 55,761.17
<b>FURNITURE AND EQUIPMENT</b>			
Purchase of furniture and equipment	2,057.19	13,045.31	10,966.62
Grand total	586,042.00	616,984.27	- 30,942.18

Note. The 1934 expenses corresponding to the Special Divisions (including the Accounting and Property) which were returned to the Bureaus on January 1, 1935, have been deducted from this statement and added to the statements for the said Bureaus.

## BUREAU OF PLANT INDUSTRY

Comparative statement of expenditures. Period ended November 14, 1935

Item	January 1 to November 14		
	1935	1934	Increase Decrease
<b>SALARIES AND WAGES</b>			
Salaries and wages, itemized	169,238.49	189,731.63	11,496.14
Salaries and wages, lump sum	39,647.53	52,104.43	12,456.84
<b>Total salaries and wages</b>	<b>208,886.02</b>	<b>232,835.06</b>	<b>23,952.98</b>
<b>SDARY EXPENSES</b>			
Travelling expenses of personnel	26,006.16	32,730.27	— 6,663.78
Freight, express and delivery service	3,170.41	4,504.96	— 720.55
Postal, telegraph, telephone, cable and radio service	5,800.24	5,864.74	— 64.50
Heat, light, steam and power service	2,063.80	2,690.88	— 627.08
Miscellaneous services	1,085.15	1,612.39	— 527.22
Rental of buildings and grounds	89.67	608.11	— 518.44
Consumption of supplies and materials	25,180.33	33,398.19	— 7,817.86
Maintenance and repair of equipment	287.66	778.82	— 491.17
Extraordinary losses	19.12	25.84	— 6.42
<b>Total sundry expenses</b>	<b>64,767.78</b>	<b>82,218.90</b>	<b>— 17,451.12</b>
<b>FURNITURE AND EQUIPMENT</b>			
Purchase of furniture and equipment	1,176.84	4,326.19	— 3,149.35
<b>SPECIAL APPROPRIATIONS</b>			
Locusts and other agricultural pests, Act 3163	29,215.41	29,866.63	— 651.22
Contributions and gratuities	24,580.14	34,584.80	— 10,004.66
<b>Total special appropriation</b>	<b>53,795.55</b>	<b>64,451.43</b>	<b>— 10,655.88</b>
Total general fund, Act 4187	328,576.25	333,830.58	— 55,254.33
<b>SPECIAL FUNDS UNDER SPECIAL ACTS</b>			
Agricultural industries fund, Act 3027	2,077.61	5,231.54	— 3,153.93
Locusts relief fund	43,610.48	43,610.48	
Additional locust fund, Act 4127	66,213.86	25,530.18	— 40,677.67
Fibre research, Net 3263	31,110.95	28,591.43	— 2,511.52
Los Baños economic garden, Act 3910	6,483.96	11,074.15	— 4,590.19
Typester fund, Net 3527	41,960.82	4,025.60	— 37,935.22
National industries fund, Act 3953	111.72		— 111.72
Promotion of agriculture	26,161.86	63,546.23	— 37,384.37
Seed funds, Acts 3443 and 3624	31,263.77	40,968.03	— 9,704.26
Tobacco fund, Acts 2613 and 3179			
Total special funds under special Acts	205,384.54	227,040.64	— 21,656.10
<b>Grand total</b>	<b>533,960.79</b>	<b>610,873.22</b>	<b>— 76,912.43</b>

## BUREAU OF ANIMAL INDUSTRY

Comparative statement of expenditures. Period ended November 14, 1935

Item	January 1 to November 14		
	1935	1934	— Increase Decrease
<b>SALARIES AND WAGES</b>			
Salaries and wages, itemized			
Person	Person	Person	
175,922.18	168,528.78	7,393.40	
32,660.33	37,366.94	5,206.61	
Total salaries and wages	208,682.51	205,895.72	2,186.79
<b>SUNDRY EXPENSES</b>			
Traveling expenses of personnel	28,815.21	31,051.14	2,235.93
Freight, express and express service	1,733.71	2,779.63	845.92
Postal, telegraph, telephone, and cable service	3,227.92	3,747.03	519.11
Heating, light and power service	2,180.00	2,194.86	14.86
Miscellaneous service	922.61	3,844.17	2,921.56
Rentals of buildings and grounds	651.15	759.55	128.40
Consumption of supplies and materials	24,221.94	37,842.23	13,620.29
Maintenance and repair of equipment	721.22	1,041.80	320.58
Extraordinary losses	80.00		80.00
Total sundry expenses	62,555.76	83,083.41	20,527.65
<b>FURNITURE AND EQUIPMENT</b>			
Purchase of furniture and equipment	1,546.89	5,343.07	3,796.18
<b>SPECIAL APPROPRIATIONS</b>			
Rinderpest and other animal diseases, Act 3186.....	40,187.45	44,993.65	4,808.20
Contributions and gratuities.....	20,775.79	21,714.23	938.44
Total special appropriations	60,961.24	66,707.88	5,746.64
Grand total	333,146.46	361,030.08	27,883.68

STOCK HERDS AND FARMS, BREEDING STATIONS AND SLAUGHTERHOUSES  
(ACTS 2158 AND 8682)

Comparative statement of expenditures. Period ended November 14, 1935

Item	January 1 to November 14		
	1935	1934	+ Increase - Decrease
<b>SALARIES AND WAGES</b>			
Salaries and wages, itemized	942.66	939.47	- 2.53
Salaries and wages, lump sum	7,602.49	6,770.23	- 832.26
Total salaries and wages	8,544.49	7,709.70	- 834.79
<b>SUNDAY EXPENSES</b>			
Traveling expenses of personnel	529.91	112.89	+ 417.52
Freight, express and delivery service	516.82	175.16	+ 341.66
Postal, telegraph, telephone, cable and radio service	44.98	40.02	+ 4.96
Telemetering and power service	4.00		+ 4.00
Meat, flour, eggs, etc.	742.17	254.40	+ 487.57
Consumption of supplies and materials	8,189.39	5,408.16	+ 2,781.23
Maintenance and repair of equipment	869.71	358.25	+ 16.46
Total sundry expenses	10,396.98	6,343.28	+ 4,053.70
<b>FURNITURE AND EQUIPMENT</b>			
Purchase of furniture and equipment	455.00	320.32	+ 134.68
Purchase of breeding animals	27.01	25,377.57	- 25,350.56
Total furniture and equipment	482.01	25,697.89	- 25,215.88
Grand total	19,423.48	89,760.87	- 20,327.39

## PROMOTION AND DEVELOPMENT OF NATIONAL INDUSTRIES, ACT 3953

Comparative statement of expenditures. Period ended November 14, 1935

Item	January 1 to November 14		
	1935	1934	+ Increase - Decrease
<b>SUNDAY EXPENSES</b>			
Consumption of supplies and materials	3,149.26	2,726.57	+ 413.69
Decrease in supplies in stock	10.70		- 10.70
Total sundry expenses	3,160.96	2,726.57	+ 424.39
<b>FURNITURE AND EQUIPMENT</b>			
Purchase of furniture and equipment	110.98	3,564.33	- 3,453.35
Grand total	3,261.94	6,290.90	- 3,028.96

## BUREAU OF FORESTRY

Comparative statement of expenditures Period ended November 14, 1935

Item	January 1 to November 14		
	1935	1934	Change Increase Decrease
<b>SALARIES AND WAGES</b>			
Salaries and wages, salaries	435,821.54	420,132.78	+ 15,688.76
Salaries and wages, temporary	8,271.49	14,820.21	- 6,548.72
<b>Total salaries and wages</b>	<b>444,093.03</b>	<b>434,952.99</b>	<b>+ 9,120.04</b>
<b>SUNDRY EXPENSES</b>			
Traveling expenses of personnel	39,554.42	41,827.84	- 2,273.42
Freight, express and delivery services	1,407.79	1,872.24	- 564.65
Postal, telephone, telegraph, telegrams and cable service	7,384.29	8,358.84	- 770.55
Telephone, light and power service	3,448.60	3,215.75	+ 282.85
Meat, groceries service	914.60	1,384.94	- 470.34
Rental of buildings and grounds	7,148.00	9,624.95	- 2,476.45
Consumption of supplies and materials	12,153.65	18,253.24	- 6,097.59
Traveling expenses of persons not government employees	181.36	307.85	- 126.49
Maintenance and repair of equipment	377.81	1,020.26	- 642.45
<b>Total sundry expenses</b>	<b>72,680.82</b>	<b>85,863.44</b>	<b>- 13,182.62</b>
<b>FURNITURE AND EQUIPMENT</b>			
Purchase of furniture and equipment	2,000.81	4,226.63	- 2,225.82
<b>Total general fund</b>	<b>518,774.66</b>	<b>525,663.03</b>	<b>- 6,288.37</b>
<b>SPECIAL APPROPRIATIONS</b>			
Classification of prime lands, Act 2906	12,323.83	13,151.43	- 827.60
Reclassification and adjustment, Act 3298	6,603.31	7,224.33	- 621.02
Commercial and industrial investment including equipment	513.15	74.67	+ 438.48
<b>Total special appropriations</b>	<b>19,440.29</b>	<b>20,450.43</b>	<b>- 1,010.14</b>
<b>Grand total</b>	<b>538,214.95</b>	<b>545,513.46</b>	<b>- 7,298.51</b>

## BUREAU OF LANDS

Comparative statement of expenditures. Period ended November 14, 1945

Item	January 1 to November 14		
	1935	1934	Increase Decrease
<b>SALARIES AND WAGES</b>			
Salaries and wages, itemized	509,021.74	586,739.45	+ 12,228.21
Salaries and wages, lump sum	64,557.01	76,917.70	- 11,360.68
Total salaries and wages	662,578.75	662,657.15	+ 921.60
<b>SUNDRY EXPENSES</b>			
Traveling expenses of personnel	51,327.13	57,260.16	- 6,933.03
Freight, express and delivery service	3,120.11	3,382.30	- 262.19
Postal, telegraph, telephone, cable, and radio service	12,100.14	11,921.93	+ 178.21
Illustration and power service	4,821.63	4,265.26	+ 556.37
Miscellaneous service	8,670.48	9,651.43	- 981.95
Rental of buildings and grounds	1,261.68	2,922.07	- 1,660.39
Consumption of supplies and materials	31,831.82	39,898.58	- 8,066.76
Traveling expenses of persons not government employees	62,857	40,658	+ 22,200
Maintenance and repair of equipment	2,014.88	1,002.82	+ 1,012.06
Depletion of supplies in stock		21.64	+ 21.64
Extraordinary losses	9.28	287.12	- 277.84
Total sundry expenses	115,245.02	131,046.99	- 15,801.97
<b>FURNITURE AND EQUIPMENT</b>			
Purchase of furniture and equipment	2,560.10	3,599.80	1,040.70
<b>SPECIAL APPROPRIATIONS</b>			
Investigation and survey of homesteads, Act 2874	62,127.31	77,515.50	15,388.19
Survey verification fund, Act 3930	23,964.62	20,587.91	+ 2,976.71
Survey and subdivision of public lands, Act 4031	71,357.40	72,247.40	890.00
Total special appropriation	157,449.33	170,750.81	- 13,301.48
Grand total	938,832.20	968,054.75	29,222.55

## CADASTRAL SURVEY FUND

Comparative statement of expenditures. Period ended November 14, 1945

Item	January 1 to November 14		
	1935	1934	Increase Decrease
<b>SALARIES AND WAGES</b>			
Wages for court hearing of cadastral projects	13,476.88	6,908.23	+ 6,458.65
Wages for temporary employees, watchmen, and janitors	16,182.48	19,421.77	- 3,242.29
Salaries and wages, cadastral projects	61,093.03	49,335.42	+ 11,757.61
Total salaries and wages	90,752.39	75,758.42	+ 14,993.97
<b>SUNDRY EXPENSES</b>			
Traveling expenses of personnel	10,620.84	5,059.65	+ 5,561.19
Freight, express and delivery service	2,659.38	1,872.99	+ 786.34
Postal, telegraph, telephone, and cable service	3,230.32	149.55	+ 3,094.77
Illustration and power service	941.66	8.98	+ 932.68
Miscellaneous service	1,610.22	62.43	+ 1,547.79
Rental of buildings and grounds	2,149.52	1,771.45	+ 378.07
Consumption of supplies and materials	10,139.88	3,476.41	+ 7,063.47
Rental of office, Fort Area	6,480.00	6,803.33	- 323.33
Total sundry expenses	37,812.67	18,805.14	+ 19,007.53
<b>FURNITURE AND EQUIPMENT</b>			
Purchase of furniture and equipment	3,774.36		+ 3,774.36
Grand total	132,333.42	94,563.56	+ 37,770.86

## FRIAR LANDS ESTATES

Comparative statement of expenditures. Period ended November 14, 1935

January 1 to November 14

Item	1935	1934	+ Increase — Decrease
<b>SALARIES AND WAGES</b>			
Salaries and wages, itemized	16,635.98	15,959.04	+ 676.94
Salaries and wages, lump sum	17,081.35	17,618.23	- 536.88
Total salaries and wages	33,720.33	33,577.27	+ 143.06
<b>SUNDY EXPENSES</b>			
Traveling expenses of personnel	3,141.55	2,840.34	+ 301.21
Freight, express and delivery service	14.61	18.97	- 4.46
Postal, telegraph, telephone, cable and radio service	328.83	431.09	- 102.26
Illumination and power service	337.43	330.28	+ 7.15
Miscellaneous service	153.52	186.50	- 33.98
Rental of buildings and grounds	484.33	426.00	+ 8.33
Consumption of supplies and materials	984.64	692.02	+ 242.62
Printing and binding reports, etc.		46.78	- 46.78
Maintenance and repairs of equipment		17.01	- 17.01
Maintenance and repairs of buildings		292.88	- 292.88
Extraordinary losses		45.00	- 45.00
Total sundy expenses	5,344.81	5,276.37	+ 68.44
<b>SPECIAL APPROPRIATIONS</b>			
Maintenance and repairs of irrigation system	23,163.83	25,285.59	- 2,121.76
Maintenance and repairs of roads and bridges	17,112.06	4,922.29	+ 13,089.77
Survey and reclassification of friar lands	3,342.45	1,462.43	+ 1,880.02
Total special appropriations	43,618.34	30,770.81	+ 12,848.03
Grand total	82,683.48	69,628.95	+ 13,054.53

## SAN LAZARO ESTATE

Comparative statement of expenditures. Period ended November 14, 1935

January 1 to November 14

Item	1935	1934	+ Increase — Decrease
<b>SALARIES AND WAGES</b>			
Salaries and wages, itemized	2,999.92	2,625.55	+ 374.37
<b>SUNDY EXPENSES</b>			
Traveling expenses of personnel	24.84	45.89	- 21.05
Postal, telegraph, telephone, cable and radio service	18.10	15.35	+ 2.75
Illumination and power service	45.57	41.29	+ 4.28
Miscellaneous service	140.91	56.47	+ 84.44
Consumption of supplies and materials	243.01	114.93	+ 128.08
Extraordinary losses	9,196.24	4,659.66	+ 4,536.58
Total sundy expenses	9,668.67	4,933.59	+ 4,735.08
Grand total	12,668.59	7,559.14	+ 5,109.45

## PUBLIC LANDS SUBDIVISION (ACT 3673)

Comparative statement of expenditures. Period ended November 14, 1935

Item	January 1 to November 14		
	1935	1934	Increase Decrease
<b>SALARIES AND WAGES</b>			
Salaries and wages	<i>Pesos</i> 7,319.61		<i>Pesos</i> + 7,319.61
<b>SUNDRY EXPENSES</b>			
Traveling expenses of personnel	1,671.65		+ 1,671.65
Freight, express and delivery service	275.83		+ 275.83
Postal, telegraph, telephone, and cable service	18.00		+ 18.00
Communication and power service	.90		+ .90
Miscellaneous service	83.05		+ 83.05
Rental of buildings and grounds	141.92		+ 141.92
Consumption of supplies and materials	284.97		+ 284.97
Total sundry expenses	2,481.02		+ 2,481.02
Grand total	9,800.63		+ 9,800.63

## REVEREND CRISOSTOMO DONATION FUND

Comparative statement of expenditures. Period ended November 14, 1935

Item	January 1 to November 14		
	1935	1934	+ Increase Decrease
<b>SALARIES AND WAGES</b>			
Salaries and wages	<i>Pesos</i> 15.48	<i>Pesos</i> 8.37	<i>Pesos</i> + 7.11
<b>SUNDRY EXPENSES</b>			
Traveling expenses of personnel	111.45	185.39	73.94
Postal, telegraph, telephone, and cable service	20	50	- 30
Miscellaneous service	1.00	321.15	- 320.15
Rental of buildings and grounds	3.00	6.47	- 3.47
Consumption of supplies and materials	6.58	45	- 6.13
Contribution and gratuities	17,500.00	7,500.00	+ 10,000.00
Total sundry expenses	17,622.23	8,013.96	+ 9,608.27
<b>FURNITURE AND EQUIPMENT</b>			
Purchase of furniture and equipment	<b>117.80</b>		- 117.80
Grand total	<b>17,755.01</b>	<b>8,022.33</b>	+ 9,732.68

## ANNUAL REPORT OF THE SECRETARY

## BUREAU OF SCIENCE

Comparative statement of expenditures. Period ended November 14, 1935

January 1 to November 14

Item	1935	1934	Increase Decrease
<b>SALARIES AND WAGES</b>			
Salaries and wages, itemized	258,211.40	247,826.34	+ 10,385.06
Salaries and wages, lump sum	42,477.84	64,241.89	- 21,764.05
Total salaries and wages	300,689.24	311,368.23	- 10,678.99
<b>SUNDRY EXPENSES</b>			
Traveling expenses of personnel	10,304.49	11,679.54	- 1,375.05
Freight, express, and delivery service	1,829.11	2,151.84	- 322.73
Postal, telegraphic, telephone, radio, and cable service	6,906.50	7,191.84	- 285.35
Illustrated travel and power service	924.16	1,878.77	- 954.61
Miscellaneous service	4,866.64	19,612.28	- 14,745.64
Rental of buildings and grounds		4.71	- 4.71
Consumption of supplies and materials	79,267.03	88,445.81	- 9,178.78
Maintenance and repair	959.26	1,097.83	- 138.57
Extraordinary losses	504.92		504.92
Total sundry expenses	105,632.20	127,065.12	- 21,432.92
<b>FURNITURE AND EQUIPMENT</b>			
Purchase of furniture and equipment	5,436.20	31,899.10	- 26,462.90
Total general fund	411,757.64	470,532.45	- 58,774.81
<b>SPECIAL FUNDS</b>			
Division of Fisheries, Act 3307	16,677.34	17,014.28	- 336.94
Fishing industry, Act 4063	19,573.36	16,818.47	+ 2,754.89
National industries, Act 3953	23,561.73	321.30	+ 23,248.43
Total special funds	59,815.43	34,154.05	+ 25,661.38
Grand total	471,573.07	504,686.50	- 33,113.43

## BUREAU OF COMMERCE

Comparative statement of expenditures. Period ended November 14, 1935

Item	January 1 to November 14		
	1935	1934	Increase Decrease
<b>BALANCES AND WAGES</b>			
Salaries and wages, itemized permanent	199,131.18	104,922.58	+ 4,208.65
Salaries and wages, lump sum	6,419.50	11,119.50	- 4,370.00
<b>Total salaries and wages</b>	115,680.68	116,042.03	- 361.35
<b>SUNDRY EXPENSES</b>			
Traveling expenses of personnel	6,145.73	7,456.03	- 906.30
Traveling expense of extension and cooperative agents	3,154.04	8,299.56	+ 74.48
Freight, express, and delivery service	308.36	269.69	+ 38.67
Postal, telegraph, telephone, cable, and radio service	5,151.05	4,681.81	+ 469.74
Illumination and power service	870.93	1,014.22	- 143.29
Miscellaneous services	542.81	600.00	- 57.19
Rental of buildings and grounds	8,770.21	11,014.66	- 2,244.42
Consumption of supplies and materials	5,321.12	6,637.52	- 1,116.10
Maintenance and repair of equipment	1,104.89	1,265.44	- 754.55
Deterioration of supplies in stock	118,061.53	4,453.89	+ 118,607.64
Extraordinary losses	.01	1,147.92	- 1,147.91
<b>Total sundry expenses</b>	149,681.01	41,840.24	+ 107,820.77
<b>FURNITURE AND EQUIPMENT</b>			
Purchase of furniture and equipment	2,589.12	1,003.39	+ 1,585.73
<b>SPECIAL APPROPRIATIONS</b>			
Commercial and industrial investment including equipment	1,240.55	2,723.74	- 1,483.19
Commercial agency in U. S. Act 3442	17,042.28	12,673.82	+ 4,366.46
<b>Total special appropriation</b>	18,282.83	15,399.56	+ 2,883.27
<b>Grand total</b>	286,213.64	174,285.22	+ 111,928.42

## RICE AND CORN FUND (ACT 2016, AS AMENDED)

Comparative statement of expenditures. Period ended November 14, 1935

Item	January 1 to November 14		
	1935	1934	Increase Decrease
<b>BALANCES AND WAGES</b>			
Salaries and wages	20,446.14	11,522.12	+ 8,924.05
<b>SUNDRY EXPENSES</b>			
Traveling expenses of personnel	3,650.45	1,909.17	+ 1,741.28
Freight, express, and delivery service	6,52	4,093	+ 42.51
Postal, telegraph, telephone, and cable service	175.35	23.76	+ 151.59
Miscellaneous services	30.24	47.80	- 12.56
Rental of buildings and grounds	119.33	16.68	+ 83.15
Consumption of supplies and materials	133.78	79.60	+ 54.18
<b>Total sundry expenses</b>	4,115.57	2,140.24	+ 1,975.33
<b>FURNITURE AND EQUIPMENT</b>			
Purchase of furniture and equipment	522.89	398.99	+ 523.90
<b>Grand total</b>	25,484.63	14,056.35	+ 11,428.28

## MANILA TRADING CENTER AND EXCHANGE

Comparative statement of expenditures. Period ended November 14, 1935

January 1 to November 14

Item			
	1935	1934	+ Increase - Decrease
<b>Salaries and Wages</b>			
Salaries and wages	<b>Pesos</b> 8,782.36	<b>Pesos</b> 4,777.51	<b>Pesos</b> +3,989.45
<b>SUNDRY EXPENSES</b>			
Renting of building	1,016.67	1,096.67	- 50.00
Traveling expenses	374.60	67.86	+ 306.14
Consumption of supplies and materials	891.81	168.86	+ 722.47
Postal, telegraph, cable, and radio service	282.91	363.94	- 814.05
Postal, telegraph, telephone, cable, and radio service	227.19	8.81	+ 218.87
Maintenance and repair of equipment	25.00	—	+ 25.00
Postage and mailing	132.86	40.00	+ 82.86
Miscellaneous expenses	743.57	427.11	+ 116.46
Total sundry expenses	<b>Pesos</b> 3,171.93	<b>Pesos</b> 2,362.21	<b>Pesos</b> + 1,108.75
<b>FURNITURE AND EQUIPMENT</b>			
Purchase of furniture and equipment	732.60	507.80	+ 224.80
Grand total	<b>Pesos</b> 12,453.83	<b>Pesos</b> 7,645.59	<b>Pesos</b> + 5,348.00

## WEATHER BUREAU

Comparative statement of expenditures. Period ended November 14, 1935

January 1 to November 14

Item			
	1935	1934	+ Increase - Decrease
<b>Salaries and Wages</b>			
Salaries and wages, itemized	<b>Pesos</b> 81,038.77	<b>Pesos</b> 81,379.48	<b>Pesos</b> - 340.71
Salaries and wages, lump sum	<b>Pesos</b> 204.15		
Total salaries and wages	<b>Pesos</b> 81,242.92	<b>Pesos</b> 81,379.48	<b>Pesos</b> - 141.56
<b>SUNDRY EXPENSES</b>			
Traveling expenses of personnel	1,117.70	1,227.22	- 130.48
Postal, telephone, cable, and radio service	374.60	122.72	+ 251.20
Postal, telegraph, telephone, cable, and radio service	12,549.35	14,604.46	- 2,055.10
Consumption of supplies and materials	295.12	190.43	+ 105.10
Maintenance of equipment	199.07	48.33	+ 150.74
Rental of buildings and grounds	8,111.66	8,111.66	—
Consumption of supplies and materials	2,418.81	8,776.22	- 1,801.41
Maintenance and repair of equipment	421.76	382.99	+ 38.76
Total sundry expenses	<b>Pesos</b> 26,346.39	<b>Pesos</b> 28,765.02	<b>Pesos</b> - 2,418.63
<b>FURNITURE AND EQUIPMENT</b>			
Purchase of furniture and equipment	<b>Pesos</b> 1,501.70	<b>Pesos</b> 4,244.55	<b>Pesos</b> - 2,742.85
<b>SPECIAL APPROPRIATIONS</b>			
Maintenance and repair of radio apparatus	<b>Pesos</b> 267.79	<b>Pesos</b> 2,300.85	<b>Pesos</b> - 2,033.06
Maintenance and upkeep of Cubatayphon signal	<b>Pesos</b> 267.79	<b>Pesos</b> 2,300.85	<b>Pesos</b> - 2,033.06
Total special appropriations	<b>Pesos</b> 535.58	<b>Pesos</b> 4,601.70	<b>Pesos</b> - 4,066.12
Grand total	<b>Pesos</b> 130,453.83	<b>Pesos</b> 115,695.90	<b>Pesos</b> + 14,757.93

## FIBER INSPECTION SERVICE

Comparative statement of expenditures Period ended November 15, 1935

Item	January 1 to November 14		
	1935	1934	Increase Decrease
<b>GENERAL ADMINISTRATION</b>			
Salaries	16,358.55	15,680.08	+ 691.87
Wages	1,499.10	1,391.73	+ 107.37
Travel expenses of personnel	209.65	21.44	+ 188.51
Postal, telegraph, telephone, and radio service	298.41	349.21	- 50.77
Lighting, heat, and power service	37.90	31.64	+ 6.26
Mail, express, and cable	67.73	22.06	+ 35.67
Rental of buildings	2,752.00	3,640.00	- 888.00
Consumption of supplies and materials	49.52	342.60	- 303.08
Maintenance and repair service	53.31	1.00	+ 52.31
Utilities	119.68	58.02	+ 61.66
Total general administration	21,705.24	21,534.68	+ 170.56
<b>FIBER INSPECTION</b>			
Salaries	69,691.50	63,978.19	+ 5,713.31
Travel expenses of personnel	7,409.14	3,441.21	+ 3,961.85
Freight, express, and delivery service	33.46	43.38	- 9.92
Postal, telegraph, telephone, and radio service	1,309.14	623.75	+ 385.39
Mail, express, and cable	111.39	76.86	+ 34.53
Rental of buildings	1,015.25	1,061.93	- 46.67
Consumption of supplies and materials	636.88	320.74	+ 216.14
Printing and binding		150.74	- 150.74
Maintenance and repair service		16.80	+ 16.80
Total fiber inspection	79,966.97	69,773.68	+ 10,193.29
Grand total	101,672.21	91,308.36	+ 10,363.85

COMMONWEALTH OF THE PHILIPPINES  
DEPARTMENT OF AGRICULTURE AND COMMERCE  
OFFICE OF THE SECRETARY  
MANILA

PART II  
REPORT OF THE SECRETARY OF  
AGRICULTURE AND COMMERCE

FOR THE PERIOD FROM NOVEMBER 15  
TO DECEMBER 31, 1935



# ANNUAL REPORT OF THE SECRETARY OF AGRICULTURE AND COMMERCE

February 28, 1936

His Excellency

The PRESIDENT OF THE PHILIPPINES  
Manila

SIR: I have the honor to submit the following report of the Department of Agriculture and Commerce covering the period from November 15 to December 31, 1935, complementing the report of the Department covering the period from January 1 to November 14, 1935. These two reports constitute the annual report of the Department for the fiscal year ending 1935, and are submitted pursuant to the provisions of section 91 of the Administrative Code.

## I. CHANGES IN PERSONNEL

The undersigned was reappointed Secretary of Agriculture and Commerce *ad interim* November 18, 1935, and took oath of office and allegiance on the same day along with other members of the Cabinet. Due to lack of time, the Inaugural Session of the National Assembly failed to act on the appointments to the Cabinet submitted to it by His Excellency, the President of the Philippines, and December 22, 1935, after the Assembly had adjourned, the undersigned, with the other members of the Cabinet, was again appointed Secretary of Agriculture and Commerce *ad interim*.

The Acting Under Secretary and the directors of bureaus, as well as the other officials and employees of the Department, also took oath of allegiance.

December 9, 1935, Mr. Cornelio Balmaceda, Director of Commerce, was suspended from office by His Excellency, the President of the Philippines, in connection with the excess importation of rice now under investigation, and the undersigned, by Special Order No. 130, designated Mr. Manuel S. Rustia, Assistant Director of Commerce, Acting Director, effective on the same day.

## II. ORGANIZATION

No changes in the organization and function of work of the Department were made in connection with the transition from the former to the new Government. As formerly, the Depart-

ment consists of the following: Office of the Secretary, Bureau of Plant Industry, Bureau of Animal Industry, Bureau of Forestry, Bureau of Lands, Bureau of Commerce, Bureau of Science, Weather Bureau, Statistics Division, Publications Divisions, Fiber Inspection Service, Navigation Division, Veterinary Examining Board, and the Board of Examiners for Surveyors.

### III. PRESSING PROBLEMS DIRECTLY HANDLED BY THE SECRETARY

The undersigned continued to handle personally the problems mentioned in the report covering the period from January 1 to November 14, 1935; namely, (a) The Davao problem, (b) The case of the San Jose estate in Mindoro, (c) The Aguinaldo indebtedness question, (d) Industrialization, and (e) The purchase of large estates owned by religious corporations and other proprietors, as well as other matters not included herein.

#### THE DAVAO PROBLEM

Further action on the Davao Problem was suspended for the time being in compliance with verbal instructions received by the undersigned from His Excellency, the President of the Philippines.

#### THE CASE OF THE SAN JOSE ESTATE IN MINDORO

The status of case of the San Jose estate in Mindoro remains the same as described in the report covering the period from January 1 to November 14, 1935, pending instructions from His Excellency, the President of the Philippines, regarding execution of the decision thereon.

#### THE AGUINALDO INDEBTEDNESS QUESTION

This question, as related in the previous report, is still pending execution of the decision arrived at.

#### INDUSTRIALIZATION

The industrial projects enumerated in the previous report under scientific investigations and those that have already been completed as reported are awaiting action by His Excellency, the President of the Philippines. The projects that are being investigated continue to be under study.

#### PURCHASE OF LARGE ESTATES OWNED BY RELIGIOUS CORPORATIONS AND OTHER PROPRIETORS

The negotiations for the purchase of large estates owned by religious corporations and other proprietors continued. The

offers made by the owners of these estates have been referred to the local committee for study and recommendation.

#### IV. ACTIVITIES OF BUREAUS, SPECIAL DIVISIONS, AND BOARDS UNDER THE DEPARTMENT

The special objectives of the Department given in an outline prepared at the beginning of the year by the undersigned in conjunction with the heads of bureaus and divisions were followed till the end of the year. The accomplishments of the Department through the bureaus and divisions during the period under review may be enumerated as follows:

##### THE BUREAU OF PLANT INDUSTRY

###### 1. GENERAL CLIMATIC CONDITIONS AND THEIR EFFECTS ON AGRICULTURE

On the very day following the inauguration of the Commonwealth Government, a typhoon accompanied with a heavy down-pour occurred, bringing relief to water-starved plants but at the same time causing slight damage to palay then maturing or heading; tobacco seedlings which were washed away by the resulting floods, as well as vegetables planted in the "tomanal" regions and fruit trees, some of which, in northern Luzon, were entirely uprooted.

The heavy rainfall, November 16 and 17, was followed by cloudy, although rainless days, until about the last week of December when heavy showers fell again. While the dry spell was favorable to the harvesting of palay and sugar cane it was unfavorable to the newly transplanted palay, corn, tobacco, sugar cane, cotton, Bermuda onions, and vegetables. The heavy rainfall on December 24th caused further destruction to early blooming mangoes that were already in the grip of mango leaf hoppers and other insects.

Because of this uneven and unusual weather a big drop in the production of all crops is expected.

###### 2. PREVALENCE OF PESTS AND DISEASES

*Locusts.*—The locust situation improved considerably during the period under review. About 2,189 hectares in 101 municipalities were freed from the pest so that by the end of 1935 only 91 municipalities in 18 provinces, covering an area of 1,273 hectares, remained infested. This improvement, however, was not entirely due to change in the methods of control but also to climatic conditions and other natural factors which did not

favor the fast multiplication of locusts. That the situation has apparently improved, therefore, is no guarantee that 1936 will see the end of locust infestation. As a matter of fact, unless better and more energetic methods of locust warfare are adopted and more enthusiastic support obtained from the public and the public officials, it is feared that 1936 may yet experience the worst locust infestation in these islands.

*Rice pests and diseases.*—Serious outbreaks of rice cutworms and armyworms (*Spodoptera mauritia* and *Prodenia litura*) occurred in some of the rice plantations in Ilocos Norte, La Union, Abra, Cagayan, Bataan, Pampanga, Tarabas, Ililo, Leyte, Bohol, Lanau, Cotabato and Zamboanga Provinces. Calcium arsenate was distributed in the affected regions for the proper and effective control of the pests under the supervision of our fieldmen in those provinces.

A new disease of rice again broke out in the municipalities of Libon, Pelangi, Oao, Ligao, and Guineoan, in the Province of Albay. The disease is still being investigated. It is believed that the poor soil, combined with lack of proper care and cultivation, and the presence of too many weeds, are contributing, if not the primary, cause of the disease. Burning of all stubbles of rice left after the harvest, withdrawal of the standing water from the infested field, at intervals, until maturing, and preventing the irrigation water from going to healthy fields from infested fields were the temporary control measures recommended. Samples of soil were also taken for analysis to determine the extent of chemical deficiency to be corrected.

*Coconut pests and diseases.*—In Carite and Laguna 346 and 67 coconut trees, respectively, were destroyed due to budrot infection. Budrot has also been reported seriously infecting coco trees in Nasugbu Batangas. The Florida red scale is still prevalent in Cebu. Because of the lack of funds, the campaign against the pest was temporarily stopped until the campaign against the locust is finished. In Ilocos Norte, La Union, Laguna, Lanau, Oriental and Occidental Mindanao Provinces the leaf miner was also reported infecting coconut trees, but parasitism is high, so that no serious damage from this pest is expected.

*Sugar-cane pests.*—The toy-beetle grub was reported infesting sugar-cane plants in Occidental Negros and Ililo. Hand picking of the grub and plowing to expose the grub to sunshine are the means being employed to control the pest.

*Abacá diseases.*—This is serious to a certain extent in Abacá and in Bulan, Sorsogon. The disease was still in an incipient stage and not fully carried out. In the work enforcing Administration. Abacá root rot and blight are the chief diseases. Proper measures to control them are being employed.

*Palay.*—November months. About three-quarters of the late maturing varieties in the central part of the country, particularly in Bulacan where the palay has been reported to have been harvested. Harvesting of palay was completed in the provinces of Misamis, Agusan, and Davao. All other provinces have not yet been harvested due to either locusts or other pests.

Transplanting of palay in the Cagayan Valley, Mountain Province, northern and eastern parts of the country of November 16, 1935, was completed. Harvesting of palay and the presentation of the same to the government from drought. At the end of the month, the harvest was reported normal.

*Corn.*—A bigger amount of corn was harvested in the northern and eastern parts of the country. Central Luzon provinces harvested to fairly a good stand. Weather. Those in the northern and eastern parts of the country have a good stand.

*Sugar cane.*—Harvesting of sugar cane is now going on in the northern and eastern parts of the country. The amount to be harvested is estimated to be greater amount.

*Abacá diseases.*—The bunchy-top disease, a virus disease which is serious to abacá, has been found in Davao, Mindoro, and in Bulan, Sorsogon. In Bulan, Sorsogon, where the disease was still in an incipient stage, eradication work was successfully carried out. In Naujan, Mindoro and in Davao, control work enforcing Administrative Order No. 51 is being carried on. Abacá root rot was and still is rampant in upper Agusan. Proper measures to control and eradicate the disease are being employed.

### 3. THE CROP SITUATION

*Palay.*—November and December were palay-harvesting months. About three-fourths of the crop was harvested, only the late maturing varieties still remaining to be harvested in the early part of 1936. Due to adverse climatic conditions during the growth season, poor crops were harvested in Luzon, except in Bulacan where the harvested crop of both upland and lowland palay has been reported as good if not better than last year's. Harvesting of palay in the Visayas and in Mindoro is already finished. Good crops were harvested in Lanao and Oriental Misamis. All other provinces reported poor crops harvested, due to either locusts, drought, or typhoons.

Transplanting of palay seedlings is now going on in the Cagayan Valley, Mountain Province, Camarines Norte, Sorsogon, northern and eastern Samar, Bohol, and Agusan. The typhoon of November 16 slightly damaged the standing late-maturing palay, and the present standing rice plants have slightly suffered from drought. At the end of December, due to rains that occurred during the last week, the stand of the palay plants was reported normal.

*Corn.*—A bigger area has been planted to corn this season. Corn fields in northern Luzon have a good stand. Those in the Central Luzon provinces and in Palawan have only from a poor to fairly a good stand due to the adverse effect of the dry weather. Those in Southern Luzon, the Visayas, and Mindanao have a good stand. Harvesting of corn is now going on in Cebu and Bohol.

*Sugar cane.*—Harvesting, milling, and planting of sugar cane is now going on in all sugar cane growing provinces. Newly planted canes are showing poor germination due to drought. The amount to be milled this 1935-1936 season is greater due to the greater amount allowed for export in 1936.

*Coco trees.*—Coco trees damaged by typhoons and locusts in 1934 and 1935 are slowly approaching normal and it is expected that they will be in normal production by the next rainy season.

*Tobacco.*—Sowing of seeds and the transplanting of tobacco plants are now going on in the Ilocos provinces and in the Cagayan Valley. For lack of seedlings due to damages caused by adverse weather conditions, only 60 per cent of the tobacco lands in the Cagayan Valley have been planted to tobacco. A bigger area, however, has been planted this season to cigarette, wrapper, and batik tobacco, and it is hoped that in the near future enough will be grown to cover entirely our demand for cigarettes and wrapper tobacco.

*Abaca.*—Due to the good prices of abaci, abacá plantations are once more being cleared and well cared for, and abaca stripers are again very busy. It is expected that the production of abaca this 1935-1936 season will be much more than the 1934-1935 production.

*Maguey.*—As already reported, farmers are losing hope of ever getting good prices for their crop and since last year have been either abandoning or clearing their plantations of maguey and planting food crops instead.

*Coffee and cacao.*—The production of coffee and cacao this year is expected to be lower than last year, due to damage caused by the storms, drought, pests, and diseases. Apparently people are not now much interested in extending their plantations.

*Fruit trees.*—Due to previous destructions caused by typhoons, drought, pests, and diseases, not much fruit is expected to be produced this 1935-1936 season. From field reports of the men of the Bureau of Plant Industry, it is apparent that mangoes, citrus, and other fruits will not be abundant this season in spite of the great interest of many persons in extending or establishing new orchards. This season is also the off-season for mangoes.

*Vegetables.*—Harvesting and marketing of vegetables are now going on, but due to the drought and the typhoon of November 15 the production is expected to be limited.

*Root crops.*—Under the initiative of the Bureau of Plant Industry a much bigger area has been planted to root crops. The increase in production of the short-season crops, potato, oil-corn and root crops, was for the purpose of avoiding food shortage in places affected badly by the typhoons and the locusts. Root crops this year are plentiful and cheap. A much bigger

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area has also been planted to cassava and more factories have been set up for the manufacture of cassava starch and flour.

*Onions.*—Although a bigger area was planted to onions last year the planting was much delayed by the drought and it is feared that the latter will contribute to reduced production.

*Cotton.*—A much bigger area has been planted to cotton in Lanao, Occidental and Oriental Misamis, Bukidnon, Agusan, Cavite, and other provinces. Like onions, the planting has been delayed by the drought. A much bigger crop than the 1934-1935 crop is expected this 1935-1936 season, however.

*Ramie.*—Ramie is creating considerable interest at present due to the good prices. In anticipation of a big demand for ramie, a larger area is planted to it in one of the Bureau's stations to provide seeds for distribution to interested parties. As soon as planting materials become available a campaign for its planting in places suitable for its growing will be started. Experiments on the different uses of this fiber are also being conducted.

#### 4. RESEARCH AND INVESTIGATIONS

*Plant introduction.*—During the period under review there were introduced into the country 32 species of plants consisting of 60 varieties from foreign places. The relative value of some of the more recently introduced plants had also been determined. Among the rice varieties introduced, the Ketan Kosteck, Ketan Serang, Dalhinla, Paleod, Ketan Ireng, Tansad, and Kamplu gave fairly good yields at the Maligaya Rice Station, Nueva Ecija, where they were tried. The Purple Golden Queen variety of popcorn seems to be specially adapted to Los Baños conditions where both its main stalk and tillers produced ears.

*Fertilizer tests on rice.*—Three of the five fertilizer tests on rice in progress during the year were completed. Increased yields were obtained in Sta. Maria, Bulacan, from the application of complete fertilizer mixture and ammonia nitrogen but in no case did the application of fertilizer pay for the outlay, due to the poor physical condition of the soil and to the attack of rice pests, particularly caseworms.

*Experiment on floating rice.*—Of the three varieties of floating rice being tested in Nueva Ecija and Pampanga, the variety Kra-Suey, introduced from Siam, seems to be the most promising in point of growth, sturdiness, ability to withstand submerged conditions, and yield. This variety is now being tried in several localities.

### 5. FIBER RESEARCH

Activities on fibers are largely related to the industrialization of fiber products, including weaving, the manufacture of sacks and bags, and the like. The progress in this work is discussed under the subject of industrialization of agricultural products.

Research work on fibers conducted in the field involves trial tests on ramie, flax, and jute, carried on in the different stations of the Bureau, and has so far produced only partial results.

Before the inauguration of the Commonwealth experiments on cotton were started in the Central Experiment Station in Manila and at the Lamao Horticultural Station in Batāan. These experiments involve trial tests and selection of different varieties of cotton and desirable strains obtained from their crosses.

Studies on the pests and diseases of abacá, cotton, and other fiber plants are discussed under the subjects of pathology and entomology, respectively.

### 6. TOBACCO RESEARCH

*Experiments conducted in the Central Experiment Station.*—Experiments on root and top development of the tobacco plant with reference to cigar wrapper type; studies in the salt requirement of tobacco; variety tests of different aromatic cigarette filler, cigar filler, and cigar wrapper tobaccos; and utilization of hybrid vigor were continued. A new experiment on the effect of variations in soil-moisture content upon the growth and quality of tobacco was started late in the year.

*Experiments at the Los Baños Economic Garden.*—The old experiments, including the topping experiment in connection with the production of batek tobacco, the experiment on the effect of shading in the commercial production of wrapper tobacco, the field tests on promising tobacco hybrids, the propagation test of wild species of *Nicotiana*, and field tests on cigar wrapper, cigar filler, and cigarette filler tobaccos, were continued. Two new experiments were started in the Garden; namely, the determination of the best age of pricked and nonpricked tobacco seedlings for transplanting.

*Experiments at the Maligaya Rice Station.*—The old experiments in progress include studies on the problems of batek tobacco production and cigarette filler variety tests. Four new experiments were started during the period under review; namely, the production of burley tobacco type, topping tests with Turkish tobacco, and soil requirements of Turkish tobacco.

*Experiments at the Ilagan Tobacco Station.*—The experiments on cigar-filler varieties, seasonal planting of the cigar-filler types for the purpose of increasing the percentage of wrapper leaves, and distancing of cigar-filler type for the purpose of increasing the percentage of wrapper leaves, were continued. No new experiments have been started at the station.

*Miscellaneous other experiments.*—Experimental studies on binetek-tobacco production were also undertaken at Santa Maria, Ilocos Sur, while the production of cigar wrapper tobacco has been tried in Occidental Negros. A number of experiments have also been conducted in cooperation with private growers, notable among which are the production of cigar wrapper under partial shade by planting in coconut groves in Laguna and Batangas Provinces, the production of cigar wrappers in the open conducted in Davao and Negros Occidental, the production of flue-cured aromatic cigarette fillers of the Virginia type in Rizal and Batangas Provinces, and the propagation of Turkish tobacco in Tarlac Province.

#### 7. AGRICULTURAL CHEMISTRY

*Tobacco chemistry.*—As a continuation of the partial analysis of tobacco leaves before and after curing, several determinations of reducing sugars were completed. Indications are that the amount of reducing sugar decreases from 5 per cent to 9 per cent during maturity to 0.1 per cent after curing.

*Oils and coconut products.*—In line with the Bureau's project of industrializing cotton and other textiles, studies have been made to produce a sulphonated coconut oil to serve as a wetting agent and a dye assistant.

In order to utilize the by-products of the cotton mill, a cotton seed refining plant has been designed and installed by the Bureau. It is not yet complete, but will be in actual operation in a short time.

Other activities include the analysis of samples of castor seeds received from different parts of the Islands and rancidity tests with two to three-year old canned casuy kernels.

*Medicinal plants and botanical insecticides.*—Three species of *Cinchona* were assayed for total alkaloid. Partial results show that these species came up to the standard set by the United States Pharmacopeia of not less than 5 per cent total alkaloids. Subsequent analyses will throw more light on the value of cinchona grown in the Philippines as compared with those from foreign countries.

Repeated requests for information regarding rotenone assay of *Derris* collected from the different parts of the country were complied with, and *Derris* samples submitted to the Bureau were assayed.

*Cellulose and starch.*—In the study of the quality of the absorbent cotton obtained from cotton comber-waste by boiling and bleaching, the best results were obtained by boiling the fiber with two degrees Baumé sodium hydroxide for 8 hours in the absence of air.

Experiments in making plain gauze bandages from cheese cloth woven in the Bureau and bleached have given fair success so far.

A very white and highly absorbent fiber has been obtained from banana fiber boiled with alkali and bleached with chlorine, but the resulting product is objectionable in that it hardens upon drying.

The preparation of dextrine (gum) from cassava starch for paste for envelopes, stamps, etc., has attained a high degree of success. Further studies on the optimum requirements as to quantity of acid used, and time and temperature of roasting in relation to the kind of starch used will be continued.

In addition to the foregoing, investigations have also been conducted on the chemistry of mango smudging and on the production and aging of wine from pineapple, santol, orange, and lemon, as well as analyses of the chemical composition of the juices of different kinds of mandarins and other materials.

#### 8. SOIL TECHNOLOGY

The field survey work of the soil in Cavite and Batangas was completed before the end of the year. Four hundred soil samples have been collected from these two provinces to be analyzed and worked out for determination of their physical and chemical characteristics.

Similarly, samples of soils from the Bicol region were obtained and are presently being studied in connection with the occurrence of the so-called "cadang-cadang," a disease that affects the rice and other crops in that region.

#### 9. ENTOMOLOGY

*Biology of the migratory locust.*—More data is being collected on the biology of the locusts, particularly on the subject relating to the transformation of the locusts from the solitary

phase to the migratory stage. Information on this point has considerable bearing on the forecasting of future possible locust outbreaks.

*Biology and control of cotton insects.*—This is a continuation of the study of insect pests attacking cotton and of the appropriate methods of control. Important data on the pink bollworm and spiny bollworm of cotton have been assembled.

*Studies on other insects.*—Observations on mango insects with particular reference to scale insects, citrus insects, insects on vegetables with particular reference to the melon fly, bean bugs, and certain destructive beetles, rice caseworm and rice leaf folder, and insects attacking cacao, lanzon, and shade trees have been continued with the usual zeal with a view to their successful control.

*Insect pests of grains and stored products.*—Valuable data have been obtained on the biology of some of the most destructive seed and grain insects. A phase of the work to which special attention was given is the development of a method of raising more eggs from some of the species of stored-product moths for rearing the egg parasite, *Trichogramma minutum*, so that in case of scarcity of the local bagworm this parasite might be reared in reasonable numbers without interruption.

*Rearing of imported parasites and other beneficial insects.*—About 11,000 specimens of *Trichogramma minutum* parasites were reared during the period under consideration and liberated in Manila, Ilocos Norte, Isabela, and Batangas. Specimens of the melon-fly parasite, which appears to be *Opis fletcheri*, were also reared. These parasites were introduced into the Philippines from Hawaii in 1923. They may prove of great value in reducing the damage caused by the melon fly to cucurbitaceous crops, if liberated in different places.

*Identification and preparation of specimens.*—Among the specimens sent to specialists abroad for determination are certain small wasps that attack the eggs of mango hoppers and other leaf hoppers, a moth destructive to mango flowers, weevils that bore into "patola" vine, hymenopterous insects that bore into the seeds of "duhat," and thrips collected from cotton and mango flowers. In this connection, specimens of cotton-stem weevil were received from an entomologist in South India for comparison with the local stem weevil. The specimens were found identical, all belonging to the same species—*Pomphorus ajiinus*.

## 10. PLANT PATHOLOGY

*Rice disease.*—The experiments on rice-disease resistance were continued both in the field and in the laboratory. Considerable work had to be done in connection with the gathering of the data needed for these experiments.

*Peanut disease.*—Likewise the studies on the stem rot and other diseases of peanut were pushed through. During the period under review the work involved harvesting, sorting, reisolations and culture of the causal organisms and various other details connected with the assembling of data. Some peanut specimens were also examined for *Thielavia* disease.

*Studies on the eggplant blight.*—Eggplant blight is a very serious disease of eggplants in Pampanga. Its causal organism has been isolated and found to be a fungus, *Phomopsis cerasi*. Studies on the cultural and morphological characters of the fungus, with illustrations of the different features of the disease, are now nearing completion. An experiment on the control of the disease by spraying with fungicides was started recently and is in progress at present.

*Abacá diseases.*—Activities on this project were confined to survey and eradication work. Some fifteen plantations covering 4,844 hectares were surveyed for abacá diseases. Mosaic disease was found very serious in the Nanyo and Bahao plantations and slight in Diosdado, Maligos, Baguio, and Catalunan Grande. Bunchy-top disease was again noted in the plantations of the Ohta Development Company and in Catalunan Grande. The eradication work conducted by the Bureau held the disease in check.

*Cacao disease.*—The spraying work, conducted on a cooperative basis in Antipolo for the purpose of studying the control of the cacao blank pod disease, was continued. Observations made during December showed marked general improvement in the plantation under treatment. Many of the trees that were almost dying when the work was started have taken on new vitality and are now bearing fruit. Other cacao diseases, such as barkrot and lichens at the trunk of the trees, are also being investigated.

*Brown rot of cauliflower.*—Experiments on the control of this serious disease were recently laid out. The control measures being tested are dusting with sulphur powder, lime sulphur mixture dust, copper dust, and lime copper dust.

*Mushroom culture investigation.*—Under outdoor conditions rice straw as a medium seems to be inferior to abacá waste for

the production of mushrooms. In the mushroom house, however, rice straw with tobacco midribs produced more mushrooms than the abacá waste fiber. This vegetable may be cultivated successfully both indoors and outdoors, but there remains the serious problem of controlling the multitude of its natural enemies.

#### 11. INDUSTRIALIZATION OF AGRICULTURAL PRODUCTS

*Cotton industry.*—With the installation of the cotton mill now operated by the Bureau, progress in the industrialization of cotton has been enhanced. The operation of the cotton mill is one of the most important activities under the Agricultural Engineering Section. From the beginning of the operation of this mill up to the close of the year 1935, 5,586 kilos of cotton yarn valued at ₱5,276 had been produced. About 10 per cent of this yarn was woven into cloth. During the period under review the mill turned out 1,430 kilos of yarn, valued at ₱1,120. With the operation of this cotton mill, the Bureau has been enabled to aid cotton growers all over the Islands by buying their produce and ginning it for them at nominal cost, thus encouraging the further planting of this crop.

*Oil extraction.*—Efforts have been made to increase the income from cotton by making use of its by-products, primarily cotton seed from which cotton oil is extracted. An oil press with grinders has recently been installed for the extraction of oil from cotton seed as well as from kapok, soy bean, peanut, and other sources of oils. During the period from November 15 to December 31, 1935, a total of 190 liters of oil was extracted—cotton seed, 120 liters, kapok, 60 liters, soy bean, 10 liters. The extraction of oil is rather slow due to the insufficient capacity of the decorticating machine. A decorticating machine that will quadruple the present capacity is now under construction, however, in order to balance this equipment with the press.

A simple refining plant has recently been constructed for refining the cotton seed oil and other oils produced in the laboratory. The refining plant does not as yet work to perfection, owing to some small defects, such as the difficulty in washing the oil because of the insufficient stirring equipment and the lack of filter press. Efforts are being made to overcome all these difficulties.

*Manufacture of insecticides.*—Following the same line of action of encouraging the production of raw materials by providing

the small growers with a ready market as is done with cotton, a small unit insecticide factory has been recently started. A derris-powder machine, devised in the Bureau and constructed out of materials from second-hand stores and junk bodegas, has been put up and is being operated with fairly satisfactory results. This project is in line with the campaign for the growing of *Derris* as a money crop in many parts of the Islands.

### 12. PLANT PROPAGATION WORK

*Central Experiment Station.*—During the period under review there were distributed from the Central Experiment Station plant materials and seeds worth altogether ₱7,174. Of this amount, a little over 1,000 pesos was received for miscellaneous fruit trees, including avocado, citrus, mango, lanzon, mangosteen, and others; ornamental plants; cuttings of *Derris* for propagation, produced at the Central Experiment Station; ₱138 for marcotted chico and marcotted macopa which were purchased from outside sources; and about ₱647 was received for plant materials supplied by the different stations in the provinces, the most important of them being caimito, chico, and rambutan from the Lamao Horticultural Station; different kinds of budded citrus plants and coffee seedlings from the Lipa Coffee-Citrus Station; citrus scions and different kinds of budded citrus plants from the Tanauan Citrus Station; black pepper cutting from the San Pablo Lanzon Station; and Hawaiian pineapple suckers and Yellow Georgia Yam cuttings from the Los Baños Economic Garden.

Of the seed materials distributed, over ₱2,700 worth represents vegetable seeds of various kinds; ₱1,638, corn; ₱400, palay; ₱280, tobacco seeds; ₱275, peanut; and the rest cotton, lumbang, and other seed materials. This tremendous quantity of seed materials had to be distributed as a relief measure in the typhoon-stricken areas. About ₱3,500 worth of the seed materials distributed for relief in the typhoon-stricken areas, principally corn, rice, and vegetable, was charged against the Red Cross fund.

### 13. AGRICULTURAL EXTENSION

*Agricultural information.*—During the period from November 15 to December 31, 1935, a total of 28,222 individuals were furnished agricultural information, 1,873 of whom called at the Central Office or in the offices of the district and provincial agronomists in the provinces; 356 were given information by

letter; 169 by telephone; 10,000 at agricultural fairs; 10,197 at farmers' meetings numbering 117; and 5,677 in lectures delivered in schools and societies.

*Investigations for farmers.*—A total of 4,206 investigations were made during the period for farmers in different localities with the purpose of giving them advice on what crops to grow, how to improve their farms, how to control plant pests and diseases, and in order to push the campaign for crop diversification and for the improvement of farm practices in general. These investigations may be classified as follows:

On crops to grow or how to improve grown crops	1,184
On irrigation and drainage facilities	149
On control of pests and diseases	1,206
On damage from typhoons and floods	1,262
On business operation of the farms	195
<b>Total</b>	<b>4,206</b>

In addition to the foregoing, there were 1,257 farms visited to show the farmers improved practices of farming; 3,034 farmers were helped to secure seeds and plant materials, and 120 farmers to sell their crops.

*Participation in provincial expositions and fairs.*—There were three fairs attended during the period under review, namely, the Lucena Petit Carnival in Tayabas, the Boac Agricultural Fair in Marinduque in connection with its town fiesta, and the Mindoro Agricultural and Commercial Fair. In these participations, the main features emphasized were the manufacture of starch and the making of gaplek, the commercial possibilities of *Derris*, and the advantages of practicing crop diversification. The people were very enthusiastic and eager to obtain information on scientific farming. In the fairs participated no less than 10,000 people, 70 per cent of whom are farmers, who thus received the benefit of the Bureau's services.

*Special drives on cotton and onion growing.*—The campaign for the growing of cotton and onion, which carries with it the supervision and guidance over the various cooperators of the Bureau interested in these crops, was continued with the usual vigor. In spite of the typhoons of November 16 and December 24, 1935, it is predicted that good crops of cotton and onion will be raised this season.

The total quantity of cotton seeds distributed was 16,625.57 kilos, planted approximately to 1,468 hectares. The most extensive plantings are located in Cebu, Agusan, Lanao, Oriental

and Occidental Misamis, Cavite, Bohol, Antique, Batangas, and Iloilo. At the present writing the cotton crops are growing well in most places. The total quantity of onion seeds distributed was 1,387.18 kilos. The most extensive plantings are located in Nueva Ecija, Laguna, Batangas, Pangasinan, Iloilo, Cagayan, La Union, Capiz, Isabela, and Cavite. The culture is very promising in the majority of cases.

#### THE BUREAU OF ANIMAL INDUSTRY

##### 1. ORGANIZATION AND ACTIVITIES

The activities of this Bureau from January 1 to November 14, 1935, were continued during the period under review.

##### 2. ANIMAL DISEASES

*Rinderpest*.—Scouting work to locate hidden foci of rinderpest was continued. No outbreak was registered during the period under review.

*Foot-and-mouth disease*.—This disease was discovered in the Province of Camarines Sur in December, 1935. However, the outbreak was so mild that it was believed that the disease must have been affecting the herds for a long time without its having been reported. Investigation revealed that herds in that locality were affected in a severe form in 1933, when there were no veterinary forces in the Bicol region.

Of the provinces previously infected with foot-and-mouth disease, only Masbate and Occidental Negros had cases. In these two provinces and in Camarines Sur, a total of 178 cases in cattle and 124 cases in carabaos were reported with 1 death in cattle.

No cases were registered in the City of Manila abattoir and stockyards.

*Anthrax*.—Cases were registered only in Pampanga where there were 65 cases and 51 deaths in carabaos. Vaccination was instituted in Pampanga and Pangasinan in which a total of 2,385 head of carabaos were vaccinated.

*Hemorrhagic septicemia*.—Fifty-two cases in carabaos with 41 deaths and one case in cattle with one death occurred in 7 provinces, to wit: Isabela, Nueva Ecija, Nueva Vizcaya, Occidental Negros, Pampanga, Pangasinan, and Samar.

The number of animals vaccinated with different biological products are as follows: With hemorrhagic septicemia aggresin

(Cutter), 29 head of carabaos and 3 head of cattle; (Mulford), 205 head of carabaos, and 34 head of cattle; hemorrhagic septicemia vaccine (Bureau of Animal Industry) 40 head of carabaos.

*Tuberculosis.*—Two hog carcasses were condemned for generalized tuberculosis. This disease is common in hogs throughout the Islands. No dairy herd was tested for tuberculosis during this period.

*Surra.*—Surra was registered in 15 provinces, namely, Bulacan, Bukidnon, Cagayan, Camarines Sur, Cebu, Cotabato, Iloilo, Isabela, Mindoro, Mountain, Nueva Ecija, Occidental Negros, Pampanga, Pangasinan, and Tarlac. There were recorded 18 cases and 14 deaths in carabaos and 151 cases and 145 deaths in horses.

*Hog cholera.*—Three provinces, namely, Bulacan, Ilocos Norte, and Pangasinan, registered a total of 50 cases and 50 deaths.

*Rabies.*—This disease continued its ravages in Cotabato province, which registered 7 cases in cattle, 4 in carabaos, 3 in goats, 1 in pig, and 4 in dogs, all of which died.

*Poultry diseases.*—Avian pest was reported in 8 provinces, namely, La Union, Mountain Province, Nueva Ecija, Nueva Vizcaya, Occidental Negros, Pampanga, Pangasinan, and Tayabas registering 1,549 cases and 1,531 deaths. This disease has the tendency to spread throughout the entire archipelago through the fighting cocks.

Roup and fowl pox are found almost everywhere in the Islands.

Fowl cholera broke out in Batangas in which 15 cases and 12 deaths were recorded.

### 3. THE SUPPLY OF FRESH MEAT IN THE CITY OF MANILA

The supply of fresh beef was derived entirely from animals raised in the Islands. There were slaughtered 4,794 head of cattle weighing 576,558 kilos with an average weight per head of 120 kilos.

*Slaughter of carabaos.*—The average daily slaughter of carabaos continued to increase. A total of 1,519 head of carabaos with a dressed weight of 211,518 kilos were slaughtered.

*The pork supply.*—A total of 20,575 hogs were slaughtered giving a dressed weight of 890,148 kilos.

*Prices.*—The prices of beef, carabao meat, and pork remained practically the same.

#### 4. MEAT INSPECTION

*Acearriaga Matadero*—A total of 26,209 animals of all kinds were slaughtered and inspected of which 26,040 were passed and 169 carcasses were condemned.

In view of the ever-increasing number of animals killed in this abattoir, it is believed necessary for the City to build another Matadero. The old one may remain for the slaughter of hogs and the new one may be used for cattle only. The new slaughterhouse proposed herein should be built with a view to future expansion, and should be modern, so as to conform with sanitary hygienic requirements. The location must allow for the building of quarantine stockyards.

#### 5. ANIMAL HUSBANDRY

All of the different projects operated by the Animal Husbandry Division during the previous régime were continued under the Commonwealth Government. No changes of importance occurred during the period under review. A brief résumé of the activities carried is as follows:

#### 6. HORSE PROJECT

As previously reported, most of the activities under this project were carried on in two stations; namely, Alabang Stock Farm and Batangas Breeding Station. In the Alabang Stock Farm mares were bred to the two Arabian stallions and one Welsh Pony that are kept at this farm.

At the Batangas Breeding Station 85 mares were bred to the three Arabian stallions in that Station. Besides the natural breeding, the work on artificial insemination is being continued in this station and the people now no longer show reluctance in having their mares artificially inseminated due to the positive results obtained in previous inseminations.

The Bureau was invited by the U. S. Army authorities to participate in the last Army Horse Show held in the Jose Rizal Memorial Stadium December 7 and 8. Three Arab stallions of the Bureau were exhibited; namely, Short Cut, Pandil, and Furdoon. All of the horses obtained ribbons at the Show, Short Cut getting first prize, Pandil second and Furdoon third. Dr. Leon Sanchez, the farm veterinarian at Alabang, was in charge of the horses during the Show.

In compliance with a petition sent by the horse breeders in Batangas, Short Cut, a few days rest after the Show, was sent to that province for breeding purposes. The amount of ₱200 was collected at the Batangas Breeding Station in breeding fees for the period under review.

Growing interest of the people in this project has been observed.

#### 7. CATTLE PROJECT

The work in this project was continued along the same lines outlined in the previous report. At the Alabang Stock Farm 4,780.374 liters of milk was produced by the Red Sindhi and Ayrshire-Nellore milch cows. The amount of ₱1,120.01 was realized from the sale of the milk. During the period 14 calves were born with no death.

At the Bonigabon Stock Farm, a Christmas sale of beef cattle was held on December 18, 1935, and 76 head of beef cattle were sold for ₱2,343.48. It was reported that only one head of cattle died in this Farm during the period under review.

At the Dumarao Stock Farm 15 head of carabaos were sold for ₱255. There were 17 births on this Farm during the period.

No sales and only 2 deaths were recorded at the Ubay Stock Farm for the period.

#### 8. SMALL ANIMAL PROJECT

As indicated in the previous report, the sheep project in the Alabang Stock Farm was transferred to the Bonigabon Stock Farm together with the two newly imported purebred Shropshire rams recently imported from the United States. The animals, according to report, are doing well in that place.

The demand for purebred pigs for breeding purposes continues to increase daily and during the period 15 pigs were sold in Alabang at a total amount of ₱426.72.

It was reported that 51 pigs, 8 goats, and 11 rabbits were born during the period and 3 rabbits and 1 pig died.

#### 9. POULTRY PROJECT

This project was principally carried on in the Alabang Stock Farm and Cebu Breeding Station. The demand for purebred poultry constantly increased and during the period the amount

of ₱1,199.91 was realized from the poultry projects in Alabang and Cebu.

During the period under review, 11,097 eggs were laid, 1,396 chicks hatched, and 136 deaths were registered at the Alabang Stock Farm.

A survey to determine the causes of the decline of the duck industry in the neighboring towns of Pateros, Tagig, etc., was undertaken in coöperation with some officials of the Bureau of Science.

*Construction work.*—No construction work of major importance was undertaken, with the exception of the continuation of the work on the water-supply project at the Bonigabon Stock Farm which is now almost finished.

*Income from the stock herds and farms fund.*—During the whole year of 1935 the projects under this fund yielded an income of ₱56,176.91, while the total expenses amounted to only ₱21,509.33, leaving a profit of ₱34,667.58 for the year ending December 31, 1935.

#### 10. ANIMAL PRODUCTS DIVISION

*Meat and milk products.*—The experiments on the manufacture of meat and milk products previously started were continued. Such experiments consisted mainly of the following:

1. Curing of hams or other pork products;
2. Preparation of domestic sausages;
3. Determination of dressed yield of native pork;
4. Determination of shrinkage of native pork during refrigeration;
5. Prevention of molds from attacking finished meat products;
6. Preservation of eggs;
7. Canning of corn beef; and
8. Curing of native dried beef or "tapa."

November 15, 1935, the Division had 1,856 Chinese style hams in storage and under cure, almost all of which had been disposed of before the end of the year.

*Milk and milk derivatives.*—In view of the limited supply of milk, very little progress was made in the manufacture of milk and milk derivatives. The following experiments have been started and are still in progress:

1. Preliminary survey of bacterial contents of milk from the different dairy farms;
2. Making of soft cheese;
3. Making of hard cheese;
4. Canning of fresh milk; and
5. Canning of condensed milk.

The following table shows the amount of milk handled by the Animal Products Division during the period under review:

	Liters
Amount of milk received from Alabang Stock Farm as of November 15 to December 31, 1935	1,465.62
Amount sent to the Bureau of Prisons	1,031.00
Amount bottled and sold by the Animal Husbandry Division	345.02
Amount given to the Veterinary Research Division— 1-pint bottles	50

### THE BUREAU OF FORESTRY

#### 1. APPROPRIATION, EXPENDITURES, AND INCOME

The Bureau of Forestry carried from November 15 to December 31, 1935, a fiduciary fund of ₱268,545.42, consisting of bonds deposited by timber concessionaires, ordinary timber licensees, and special permittees, as compared with ₱288,632.43 during the same period last year. From this, ₱10,854.87 was paid in salaries of concession guards, refunded, forfeited, or applied to payments of forest charges, as against ₱15,635.67 during the same period last year.

#### 2. FOREST RESEARCH

##### SILVICULTURE

*Experimental nursery—plant distribution.*—During the period under review 553 forest-tree seedlings and 191 ornamentals were distributed without charge to various entities. There were sold 410 seedlings, costing ₱85.55. Most of the seedlings sold were of the species *Araucaria excelsa*.

*Seed received.*—During the period 488.8 liters of seeds were received from various sources in the Islands and 0.052 liter from foreign countries, making a total of 488.852 liters.

*Seed distribution.*—During the period under review, 553 liters of seeds were distributed in the Islands and 12 liters to foreign countries, and 406 liters were sown in nurseries, or a total of 971 liters. Of the 12 liters sent to foreign countries, 1.08 were sent to South America, 8.5 to China, and 2.5 to United States.

*Forest entomology and pathology.*—During the period the biological collection of insects and animals was cleaned and given new preservative. The records of reptiles and fungi, both old and temporary, were transferred to the printed B. F. Form No. 23-10. Additional information has been added to the forest entomology lecture to make it ready for mimeographing next June.

*Plant quarantine inspection.*—During the period under review five shipments of various fruits and seeds were inspected and the corresponding certificates issued. The monthly report on this work was submitted to the Director of the Bureau of Plant Industry, as usual.

*Wood technology.*—There were identified 65 pieces of wood samples submitted by forest officers, lumbermen, timber buyers, etc. At the request of Navy Yard authorities at Cavite, a member of this Bureau identified all the woods used in the sash doors manufactured there.

There were taken one negative, 40 prints of 9 x 12 cms. 74 of 5" x 7" of durability-test pieces, of logs of different species of trees cut in Mindoro, grains of wood, and two negatives and 65 prints of 5" x 7" were made to show memorial trees planted during the 1935 Bird and Arbor Day, reforestation projects, etc.

### 3. REFORESTATION

*Regular projects.*—The work done during this period was in the form of maintenance and supervision in the nurseries and plantations in all of the various reforestation projects.

*Cooperative planting projects.*—During the period the Bureau co-operated with the Elementary School of Majayjay, Laguna, in planting its school grounds. Planting materials were given and a member of the Bureau was sent to take charge of the planting.

### 4. WORKING PLAN

Field work leading to the preparation of the working plan for the Mount Arayat National Park, which was started in 1934, was completed December 15, 1935. The data gathered will soon be correlated and the working plan prepared.

### 5. NATIONAL PARKS

Of the 80 proposed national parks pending establishment, one was dropped, making a total of 79 proposed national parks as of December 31, 1935.

The total income from the parks from November 15, 1935, to December 31, 1935, amounted to P400.26, while the total expenses incurred was P1,295.87 against P314 in the previous year. The excess of expenses over collections amounted to P895.61 and was covered by excess collections in 1934.

### 6. FOREST RESERVES AND SPECIAL FORESTS

From November 14 to December 31, 1935, 796 mineral claims were referred either by the Insular Treasurer or interested par-

ties to this Bureau for certification as to whether or not they affect national parks, forest reserves, communal forests, and communal pastures. Of these claims 71 were certified as affecting wholly or partly communal forests and communal pastures, 5 partly as falling within the Central Cordillera Forest Reserve, 638 as being outside any established forest reserve, national park, communal forest, or communal pasture, and 82 were pending verification in the field.

*Timberland.*—During the period there were established 46 blocks of timberland with a total area of 31,387.80 hectares. Two blocks with an aggregate area of 111 hectares were reverted from alienable and disposable to the category of forest land.

There were also reclassified and certified as alienable and disposable land 3 timberland blocks containing an aggregate area of 6,076.10 hectares.

*Forest reserves.*—Four forest reserves were proposed during the period.

*Other reserves.*—Seven reservations for purposes other than forestry, containing 94.70 hectares, were surveyed and certified during the period.

*Communal forests.*—Only two parcels of communal forests, containing an area of 132 hectares, were established, six parcels with an area of 1,767 hectares amended, twenty-three parcels inspected, and none was cancelled or opened to commercial exploitation. At the end of the period, 1,814 parcels, having an area of 255,812.42 hectares, were in force. December 31, 1935, 215 cases on communal forests were pending, of which 151 were pending cancellation.

Two municipal forest guards were appointed and one resigned, making a total of 279 in the service at the end of the year.

*Communal pastures.*—During the period under discussion, two parcels of communal pastures, having an area of 318 hectares, were established, and one parcel containing an area of 536.8 hectares was cancelled, making a total of 50 parcels, with an aggregate area of 10,823.07 hectares located in 30 municipalities in force at the end of the year. December 31, 1935, 28 parcels of communal pastures were pending establishment, 2 were pending amendment, and 2 were pending cancellation, or a total of 32 pending cases.

#### 7. SPECIAL-USE PERMITS

With the inauguration of the Commonwealth Government, the numbering of applications and permits for special uses was

changed. Likewise, instead of extensions, new permits are being issued, inasmuch as there are many new rules and regulations now in force which were not included in the original permits. A list was sent to the undersigned showing, by provinces and nationalities, the locations and areas of pasture permits in force during 1935.

With the going into effect of the Constitution of the Commonwealth Government, it is likely that section 1838 of the Administrative Code, as amended by Act 3820, will be further amended, so that the maximum area for which a permit can be issued for grazing purposes may conform to the requirement of the constitution, which allows not more than 2,000 hectares.

There were commented upon during the period 12 reports on land classification projects, regarding the kinds and number of special-use permits within the proposed alienable and disposable land affected by these projects.

*Special-use-permit applications.*—There were received during the period 525 applications. Of these, 148 were for residence, 135 for pastures, 31 for nipa and bacauan plantations, 144 for reforestation, 21 for fishponds, 32 for camp sites, 5 for salt-works, 2 for sawmill sites, 2 for logging camp sites, 2 for rights-of-way, 1 for a lumber yard, 1 for a lime and charcoal kiln, and 1 for miscellaneous purposes. These, together with the 2,895 applications pending at the beginning of the Commonwealth Government, make a total of 3,420 applications handled during the period. Out of these, 809 cases have been disposed of, leaving 2,611 pending on January 1, 1936.

*Ordinary cainigan permits.*—November 15, 1935, there were 37 applications for cainigan permits pending, and during the period under consideration there were received 74 applications, making a total of 111 for action. Of these, 33 applications were approved and 29 disapproved. A total of 49 applications were pending action December 31, 1935. November 15, 1935, there were 876 permits in force. There were issued 33 cainigan permits which, when added to 876 in force as of November 15, make a total of 909 permits in force as of December 31, 1935, covering an area of 2,469.49 hectares. There was collected the amount of ₱165, giving a total of ₱770.48 as rentals under cainigan permits for the year 1935. There was also collected the amount of ₱172 in application fees for cainigan permits, making a total of ₱935.90 collected for the whole year of 1935.

*Rentals and fees.*—The total collections of rentals and fees, including cainigan, amounted to ₱5,459.75, distributed as follows:

Back rentals with surcharges .....	₱2,317.98
Current rentals with surcharges.....	720.70
Advance rentals .....	1,543.07
Forestry fees .....	878.00
 Total	 ₱5,459.75

### 8. FOREST-LAND-REGISTRATION CASES

*Ordinary-land-registration cases.*—There were received 104 cases of ordinary land registration, involving 236 parcels with an aggregate area of 1,590.11 hectares. Of these, 19 parcels, covering 530.81 hectares, were opposed. These, together with the 262 parcels covering 48,427.95 hectares pending at the inauguration of the Commonwealth Government, make a total of 281 lots, with 49,018.77 hectares to be heard during the last part of the year. Of these, opposition on 10 lots with 329.43 hectares was withdrawn, leaving 271 lots with 48,689.34 hectares pending hearing at the end of the year.

*Cadastral cases.*—There were received 10 cadastral cases involving 5,577 lots with an aggregate area of 33,116.13 hectares. Of these, 3,633 lots covering a total area of 30,657.10 hectares, were opposed. Adding these to the 54,896 lots with a total area of 483,728.64 hectares pending hearing at the inauguration of the Commonwealth Government, cases involving 58,529 lots with a total area of 514,385.74 hectares were to be heard in the courts during the later part of the year. On 108 lots of these, covering 165.42 hectares, opposition was withdrawn, the cases on 153 lots covering 486.87 hectares were lost, and those on 178 lots with 28,358.82 hectares were won, leaving 58,090 lots with an aggregate area of 485,874.64 hectares pending at the end of the period.

*Decisions.*—A total of 92 copies of Court decisions, orders, autos, motions, etc., regarding ordinary and cadastral cases, were received during the period, classified as follows:

	Ordinary land registration.	Cadastral land registration.	Total.
	2	2	2
Notice of hearing .....	.....	.....	.....
Decisions:			
With opposition	1	69	70
Without opposition	2	10	12
Orders .....	1	.....	1
Autos .....	.....	5	5
Motions .....	.....	2	2
Briefs .....	.....	.....	.....
Bill of exceptions .....	.....	.....	.....
 Total	6	86	92

### 9. FOREST CLAIMS AND CONFLICTS

*Forest claims.*—During the period there were received 30 new cases of claims to forest lands. These, together with the 283 cases pending at the beginning of the period, make a total of 313 cases handled. Of these, 14 cases were finally acted upon, 8 being considered as falling under section 1820 of the Revised Administrative Code, and 6 were closed either because they were within the alienable and disposable areas or the whereabouts of the claimants could not be determined. At the end of the period there were 299 cases pending, as follows:

Number of claims pending examination in field	84
Number of claims pending submission of proof of ownership by claimants	209
Number of cases under study and final action	6
<b>Total</b>	<b>299</b>

*Forest conflict.*—Only one case of forest conflict was received.

*Ejectment proceedings.*—In addition to the 7 cases pending action by the provincial fiscals at the beginning of the period, three more cases were referred to them, making a total of 10 cases in the hands of the fiscals up to the end of 1935. Of these, one case was filed in court, leaving 9 cases pending action at the end of the year. There were 6 cases pending hearing before the courts at the end of the year, two of which were filed in 1935 and four in 1933. One case pending hearing since 1934 was decided by the court in favor of the Government during the latter part of 1935.

### 10. LUMBER INDUSTRY

*Lumbering activities.*—The lumbering activities of the sawmill operators and small timber licensees continued in spite of the economic depression and the many holidays observed during the period. The cut of these sawmill operators and small timber licensees amounted to 106,630.97 cubic meters (log scale).

During the period 90 sawmills were in operation and 21 temporarily shut-down, including the Philippine Red Lumber Company, Inc.

*Investment.*—There were four mills installed previously and reported only during the period, so that at the end of December 1935, there were 111 sawmills and power logging operations under license, carrying an investment of approximately ₱27,474,655.

*Foreign markets.*—The lumber and timber exports during the period registered a slight decline. A total of 4,961,012 board feet of lumber and timber were shipped abroad. The cause for this decline may be attributed to the decreased demand of Philippine logs in Japan and United States, and to the irregular demand for lumber and timber in the United Kingdom and Australia. However, demands in some principal markets, such as China, British Africa, Hongkong, and Singapore registered increases. Spain for the first time in the year imported some Philippine lumber.

*Local markets.*—The demand in the local markets was still poor and prices went down due to increased supply. However, there were shown active lumber and timber transactions for future deliveries. The local sales during the period amounted to 7,623,272 board feet.

*Grading and lumber inspection.*—During the period there were 16,997 board feet of lumber and timber inspected. The inspection fees charged for the above work by the Bureau totalled ₱22.61.

*Sealing.*—There were 88,443.01 cubic meters of timber with corresponding forest charges of ₱77,935.29 sealed by forest officers during the period from November 15 to December 31, 1935. Of the 111 sawmills and power logging operations under license during the year, 71 had permanent scalers, 10 were visited only periodically by forest officers, and the rest, or 30, had no scalers at all.

As usual, practically all the timber shipments consigned to Manila during the period were sealed by qualified forest officers and deductions for natural defects of the timber sealed were made in accordance with Act 3938. There were 2,176.87 cubic meters of timber with corresponding forest charges of ₱4,185.87 sealed in Manila by forest officers during the period from November 15 to December 31, 1935. There was a marked increase of activity in the sealing work due to active demand for timber in the Manila market.

Mill studies were carried on whenever the pressure of actual sealing work of the field scalers permitted. These mill studies were conducted primarily to check and improve the scalers' judgment of defects.

*License inspection and patrol work.*—During the period only 13 timber license areas and 5 minor forest product license areas were inspected. This apparent inactivity in this work was due principally to lack of funds for traveling expenses and

partly to the preparation of the annual report by the field personnel.

### 11. FOREST VIOLATIONS

*Illegal cainīgin.*—Cainīgin had been and is still a difficult problem in connection with forest administration. This pernicious practice will remain a problem unless a more rigid cainīgin law is passed by the National Assembly.

There were reported 269 cases of illegal cainīgin, covering 181.22 hectares of public forest. The forest products destroyed amounted to 7,964.75 cubic meters of timber, 67.47 cubic meters of firewood and 45,500 pieces of boho. The total amount of regular and additional forest charges lost to the Government is estimated at about ₱14,149.96.

### 12. UTILIZATION OF FOREST PRODUCTS

*Forestry licenses issued.*—There were issued during the period a total of 249 forestry licenses. Of this number, 11 were ordinary timber licenses, 15 ordinary minor forest product licenses, 77 private gratuitous licenses, 54 permits to transport second and lower groups timber for personal use, 1 special wild plants permit for educational or scientific purposes, 1 collector's wild plants license, and 90 permits to transport wild plants for personal purposes.

*Forest products cut, collected, and invoiced.*—The total amount of timber cut and collected from the public forest during the period was 106,630.97 cubic meters.

*Forest charges collected.*—The total forestry charges collected during the period amounted to ₱113,749.28. The record of this Bureau shows that at the end of December, 1935, the total forest charges pending collection in the hands of collecting officers amounted to ₱423,585.14.

*Land classification.*—There were received 17 requests for land classification in the form of resolutions or petitions from different provinces, itemized as follows: Albay 1; Antique 1; Batuan 2; Cagayan 1; Cebu 1; Cotabato 2; Misamis Oriental 1; Negros Oriental 1; Nueva Ecija 4; Rizal 1; Tayabas 1; and Zamboanga 1. Of the 17 requests, 3 were acted upon and the remaining 14, together with the 71 requests pending November 14, 1935, will be taken up in 1936 if enough funds and personnel are available for the purpose.

*Certification of public land applications.*—There were received during the period 163 requests for certification from the

Bureau of Lands, which, together with the 1,745 requests pending action on November 14, 1935, make a total of 1,908 requests handled. Out of this number, 315 were acted upon as follows:

Certified for agriculture	139
Certified for forestry	64
Returned unfilled, area being inside alienable and disposable area already certified either to the Bureau of Lands or to the Secretary of Agriculture and Commerce	60
Returned uncertified for lack of interest of applicants or their whereabouts unknown	52

leaving a balance of 1,593 requests pending action December 31, 1935, as compared with 2,931 at the close of 1934.

*Certification of public land applications under section 1838 of Act 2711.*—During the period a total area of 175.20 hectares not needed for forest purposes was certified for agriculture to the Director of Lands. This area was covered by 12 special use permit applications under section 1838 of the Revised Administrative Code, as amended by Act No. 3620, itemized as follows: 7 for residence, 4 for pasture, and 1 for fishpond.

#### THE BUREAU OF LANDS

##### 1. ADMINISTRATION OF PUBLIC LANDS

*New applications.*—During the last one and one-half months of the year just ended, 2,777 new public land applications, covering 41,571.3946 hectares, were received in the Bureau of Lands.

*Approval of applications.*—Notwithstanding the great number of applications received, the approval thereof has been very much hampered in view of the partial inactivity of the field force of the Bureau as a result of the limited funds allotted for investigation work. As a consequence, only 1,460 applications, covering a total area of 18,582.7042 hectares, were approved, an accomplishment which, however, is encouraging when compared with the record of the previous years.

*Issuance of patents.*—A total of 1,283 patents were issued for 13,492.1564 hectares during the period under review.

*Public land investigations.*—The following table shows the accomplishments of this Bureau in public land investigation work:

Preliminary investigations executed	1,226
Final investigations executed	818
Investigations of claims and conflicts executed	407
Miscellaneous investigations	859

The pending work in the field has accumulated, because, as stated elsewhere in this report, the limited allotments and the release of the funds in installments compelled the district land officers to reduce the activities of their investigation force so as to incur no deficit. December 31, 1935, we had 19,187 investigation orders pending execution, as compared with the pending work (15,267 orders) at the end of the preceding year. The prompt execution of this investigation work is necessary for the proper disposition of many applications pending approval, the large number of applications ready for patent, and the equally numerous applications of different kinds involved in claims and conflicts. An investigation drive throughout the Archipelago is being planned, and it is hoped to start it soon in the Cagayan Valley.

## 2. ADMINISTRATIVE SETTLEMENT OF CONFLICTS, LAND REGISTRATION, AND OTHER LEGAL WORK

### CLAIMS AND CONFLICTS

*Orders of investigation and reinvestigation.*—The total number of orders of investigation and reinvestigation issued, as well as the number of reports returned for being defective or incomplete, is as follows:

Orders of investigation .....	341
Orders of reinvestigation .....	38
Reports returned for being defective or incomplete .....	36

*Disposition of claims and conflicts.*—This Bureau handed down 883 decisions in claims and conflicts.

*Disposition of motions or petitions for reconsideration.*—The number of orders granting or denying requests for reconsideration as well as the number of orders suspending the effects of decisions and orders of execution of final decisions are shown in the following table:

Orders granting requests for reconsideration of decisions and directing reinvestigation .....	37
Orders dismissing requests for reconsideration of decisions .....	72
Orders suspending effects of decisions .....	17
Orders of execution of decisions .....	19

*Appeals to the Department.*—There were 33 decisions of the Director of Lands appealed to the Department.

The following table shows how the decisions brought on appeal during the period covered by this report and prior thereto were disposed of by the Department:

Affirmed .....	15
Reversed or modified .....	10
Remanded for reinvestigation .....	3

*Study and preparation of opinions on legal queries.*—Only 1 opinion was rendered by the Director of Lands on legal queries submitted by officers and employees of this Bureau and other bureaus as well as by private parties.

### 3. DISPOSITION OF FRIAR LANDS AND SAN LAZARO ESTATE

#### FRIAR LANDS

*Sale of vacant lots.*—There were sold for ₱18,997, 61 vacant lots with a total area of 168.8540 hectares.

*Deeds of conveyance issued.*—Three hundred ten (310) deeds of conveyance were issued for an equal number of lots with an aggregate area of 509.2691 hectares valued at ₱119,916.98.

*Assignments and transfers.*—There were approved 173 assignments of sale contracts covering a total area of 484.0111 hectares valued at ₱83,924.12.

There were also 28 orders of transfer of rights of the deceased purchasers to their respective legal heirs. These orders covered 35 lots with a total area of 42.4730 hectares valued at ₱12,016.59.

*Cancelled sale contracts.*—One hundred and twenty-two sale contracts, covering the same number of lots, with an aggregate area of 2,320.6576 hectares valued at ₱298,451.28, were cancelled. The reason for the cancellation of the contracts was that the purchasers voluntarily relinquished their preference rights, or that they failed to pay their long outstanding indebtedness.

*Friar Lands Investment Fund, Act No. 1736.*—As in the case of the San Lazaro Investment Fund, no new applications were accepted, but those received prior to the order of suspension of the granting of loans were favorably acted upon. The summary of the operation of this fund is as follows:

Cash on hand available for investment at the beginning of this report (November 15, 1935) .....	₱43,286.75
Receipts from operation (November 15 to December 31, 1935) .....	4,123.32
	47,410.07

New loans granted, including payments of insurance premiums, realty taxes, etc. advanced from the loan fund and charged to respective mortgage accounts .....	₱1,405.30
Cash surplus available for investment at the close of this report .....	46,004.77

## Outstanding loans:

Chattel mortgages .....	₱140,178.69
Real estate mortgages .....	75,484.73
Total of active accounts .....	₱215,663.42
Foreclosed mortgages .....	8,431.74 ₱224,095.16
Present operating capital .....	₱270,099.93

## SAN LAZARO ESTATE

*Collections.*—The total receipts from the disposition of the San Lazaco Estate, including repayment of loan principal, amounted to ₱30,580.19, itemized as follows:

Sources	Total
Rentals of lands .....	₱152.00
House rentals .....	447.00
Sales of lands .....	744.39
Interests on sale of lands .....	257.33
Miscellaneous receipts .....	1.50
Loan principal .....	17,842.01
Loan interest .....	9,591.21
Sales of confiscated properties .....	1,097.00
Interest on confiscated properties .....	327.75
Amount credited to the account of confiscated property (Mr. Hunt's) .....	120.00
Total .....	₱30,580.19

*San Lazaro Investment Fund, Act No. 2360, as amended by Act No. 2478.*—On account of the suspension of the granting of loans, no new applications for loans from the San Lazaro Investment Fund were accepted. Those received before the suspension had been ordered were approved. The transactions on this fund are summarized in the following table:

Cash on hand available for investment at the beginning of this report (November 15, 1935) .....	₱598,500.27
Receipts from operation (November 15 to December 31, 1935) .....	18,474.97
New loans granted, including payments of insurance premiums, realty taxes, etc. advanced from the loan fund and charged to respective mortgage accounts .....	4,403.69
Cash surplus available for investment at the close of this report .....	₱612,571.55

## Outstanding loans:

Chattel mortgages .....	₱29,193.48
Real estate mortgages.....	1,082,145.99
Total of active accounts.....	₱1,111,339.47
Accounts receivable from sales of confiscated properties.....	67,049.40
Foreclosed mortgages	79,375.17 ₱1,257.64.01
Amount taken from receipts and reserved for losses	80,462.48
Present operating capital	₱1,950,738.07

## THE BUREAU OF SCIENCE

The previous report for the period January 1, 1935, to the establishment of the Commonwealth, gave a detailed account of all the activities and accomplishments of the Bureau of Science for nearly the entire year.

The present report is a brief review of the work that was still in progress during the last six weeks of the year.

As stated in the first report, the Bureau is now deeply engaged in industrial research and the establishment of small model semicommercial plants. These units are designed to illustrate the manufacture of various products from local raw materials. Such miniature factories are a great help in developing industries, for they show the public exactly how raw materials are processed into finished products. It will greatly facilitate industrialization in the Philippines for the Government to take the initiative in such enterprises.

The construction of a building for the manufacture of tanning extract and high-grade leather is still in progress. This miniature plant, when completed, should help to improve the local tanning industry and facilitate the development of a profitable export trade in tanning extract.

The plant for making ceramic products is about finished. The glass unit is now in actual operation and is producing bottles to supply the requirements of the Government.

Experiments on medicinal plants were continued. Plans for building a semicommercial factory for the manufacture of to-taquina (quinine) tablets have already been submitted to the proper authorities. Establishment of this project will enable the Bureau of Health to distribute a quinine preparation in much larger amounts than is possible at present, and will result in saving thousands of lives.

The research on derris (insecticide) in coöperation with the Bureau of Forestry has, so far, given very satisfactory results. If this project is successful this Bureau will have the necessary data for establishing another export industry. That is, the production and exportation of derris root or the active principle, rotenone.

Investigations on vegetable oils, particularly coconut oil, are expected to give results of special interest to local exporters of coconut oil.

Work on resins was carried out with the idea of improving the local products.

In the line of nutrition further work was done on the vitamin contents of Philippine vegetables, fruits, and sea foods. Such research tends to correct the diet and improve the health of the people since various diseases are caused by a deficiency in the diet.

The preparation of wines from different kinds of fruits and the manufacture of vinegar, pickles, and ketchup from local raw materials were the principal research activities in Home Economics.

The biological products, manufactured in the Bureau of Science, were investigated with the idea of improving the methods of preparing them.

As usual, investigations in connection with the mining industry consisted mostly in securing accurate field data.

Technical personnel in the Fish and Game Administration were engaged in work on the various aspects of the fishing industry. Problems in ichthyology, fish cultivation, and preservation, and also systematic and economic ornithology, were studied.

In the different sections of the National Museum research work was in progress along various lines; such as anthropology, botany, entomology, and economic mycology. Particular attention was paid to the study of orchids.

Research in the Scientific Library consisted mostly in the compilation of bibliographies or special lists of references.

Work on soil surveys was done in various localities. Data on the physical and chemical properties and profile stratification of soils are important for determining the purpose for which the land in any particular locality is suitable.

The soil survey report for the Province of Rizal is nearly finished and will soon be submitted for publication.

### 1. PUBLIC SERVICE

The public service, public-health work, and regulatory industrial activities were the same for this period as for the previous months of this year. Our former report for the first nine and a half months of the year gave a detailed account of all those activities.

### THE BUREAU OF COMMERCE

#### 1. GENERAL STATEMENT

The Commonwealth of the Philippines, November 15, 1935, found the Bureau of Commerce busy selling imported rice to the needy. Every day, not excepting Sundays, the Emergency Rice Administration, which was created in the Bureau to handle the sale and distribution of the cereal, had to attend to about 200 persons who came from different parts of the country. The work of the Emergency Rice Administration constituted one of the most important activities of the Bureau of Commerce during the latter part of the year. A large part of the personnel of this Bureau and a number of employees from the Bureau of Lands and the Divisions of Statistics and Publications of the Department had to be employed to help in selling rice at retail in different parts of the city.

At the Manila Trading Center and Exchange, there were sold during the period goods valued at ₱13,817.77, as compared with ₱8,354.96 sold during the corresponding period of last year, or an increase of 59 per cent. Sales during Christmas week were brisk. December 23, the sales for that single day reached ₱936.07, the highest daily sale since the establishment of the Center. Equally noteworthy was the good showing of the coöperative marketing associations, under the supervision and control of the Bureau, which handled and sold, during the entire year, around ₱3,000,000 worth of farm products.

#### 2. COMMERCIAL INTELLIGENCE DIVISION

Among the important activities undertaken by the Division was the preparation of reports on existing local industries for the use of the Technical Trade Committee appointed by ex-Governor-General Frank Murphy to study the proposed industrialization of the Philippines. It was also during this period that several employees of the Division, upon order of the Director of Commerce, took part in the Second National Congress of

Filipino Business Men held in Manila from November 19 to November 24 and cooperated fully with officials of the Chamber of Commerce of the Philippine Islands in making the affair a success.

*Philippine Journal of Commerce.*—Materials for the regular features of the Philippine Journal of Commerce were prepared and sent to the Publications Division for editing and printing, together with special articles contributed by prominent writers and business men and high Government officials.

*Monthly review of business conditions.*—A review of business conditions for November was prepared during the middle part of the month. As usual, this report features the following: business conditions in different provinces; foreign trade of the Philippines; monetary circulation; conditions of local banks; stock and bond market; Government income and tax collections; total business sales, etc.

*Directory of manufacturers, importers, exporters, and dealers.*—This directory is already completed. It is being checked and rechecked in order to avoid inaccuracies.

### 3. MARKETS DIVISION

The Markets Division, in addition to the performance of its regular assignments, devoted a considerable portion of its time to assisting in the work and operation of the Emergency Rice Administration.

Despite increased work in connection with the Emergency Rice Administration, all the activities of the Division were undertaken as usual. The various market reports were prepared and released as usual and consignments of agricultural produce were attended to with dispatch. Owing, however, to the shortage of the local supply of rice the produce exchange did not handle as much as in the previous years, so that the volume of consignment sales during the period under review was considerably reduced. The bulk of our sales, which amounted to only ₱1,678 was mainly on copra. In the past, the biggest item handled in the produce exchange was rice. From November 15 to the end of the year, however, not one grain of rice was consigned to the Bureau. This accounts for the relatively small volume of business handled by the produce department.

A total of 117 inquiries were investigated and replies thereto were prepared and released.

## 4. TRADE REGULATION DIVISION

*Mercantile registry.*—During the period under review there were registered the following documents pertaining to corporations:

- 47 Articles of incorporation
- 3 Amended articles of incorporation
- 7 Certificates of increase of capital stock
- 1 Certificate of decrease of capital stock
- 47 By-laws
- 1 Amended by-laws
- 2 Amendments to the by-laws
- 2 Certificates of dissolution

Of the 47 articles of incorporation registered, 37 were for stock and 9 for nonstock corporations, and 1 for a coöperative marketing association.

The number of corporations registered each month during the period was as follows:

November 15 to 30 .....	15
December .....	32

A classified list of the corporations registered during the period under review follows:

Domestic corporations .....	44
Puericulture centers .....	2
Coöperative marketing association.....	1

The total number of corporations registered during the same period last year was 41.

The following is a summary of the capitalization of the corporations registered from November 15 to December 31, 1935, as stated in their articles of incorporation:

## DOMESTIC CORPORATIONS

Authorized capital stock .....	₱5,824,000
Subscribed capital stock .....	2,311,821
Paid up capital stock, cash .....	419,170
Property .....	490,090
Mining claims .....	1,089,997

A summary of the capital of the mining corporations registered during the period under review, together with the nationalities of the holder of the controlling interest, is as follows:

## AUTHORIZED CAPITAL STOCK

Filipino .....	₱2,320,000
American .....	700,000

## SUBSCRIBED CAPITAL STOCK

Filipino .....	₱653,975
American .....	541,000

## PAID UP CAPITAL STOCK

Filipino:	
Cash .....	₱45,308
Mining claims .....	540,000
American:	
Cash .....	₱11,803
Mining claims .....	499,997

A total of 9 mining corporations filed their articles of incorporation during this period. Of these, 5 are Filipino corporations and 4 American.

There were also registered 16 documents pertaining to partnerships. They are classified as follows:

- 12 Articles of copartnership
- 2 Extension of term of duration
- 2 Amendments to articles of partnership

During the period under review there were received 48 applications for the registration of trade-marks. The majority of these applications came from the United States. Twenty-seven applications published in the Official Gazette, as required by our rules and regulations, were registered after the expiration of the thirty-day period for the filing of opposition. Two applications for the registration of the trade-marks, namely, "Magic" for candies and "Manok" for flour, were rejected, the ground for rejection being that the former was not in accordance with law as regards actual use of the mark on goods in the market, while the latter infringes upon a registered trade-mark. An application for registering "Maria Iloilo," through our commercial agent of Iloilo, as trade-mark for cigarettes was referred to the provincial fiscal of Iloilo for investigation in connection with a certain statement found in the application which constitutes a violation of Act 3202, as amended.

The following are the number of registration of trade-marks, trade-names, assignments of trade marks and certified copies of U. S. letters patents by month:

	November 15 to 30, 1985	December, 1985
Trade-marks .....	8	16
Trade-names .....	1	2
Assignments of trade-marks .....	1	6
Filing of U. S. letters patents.....	39	11

More than 250 letters were prepared in answer to inquiries relative to the registration of corporations, partnerships, trademarks, trade-names, and United States letter patents, and the legal interpretations of laws pertaining thereto.

A great number of certified copies of official documents were issued to the public by this section. For this purpose only, the sum of ₱288.50 was collected.

*Licensing of brokers and registration of aliases and business names.*—A total of 49 brokers' certificates of all classes, both new and renewal, including those of sub-agents, were issued; 15 aliases, both new and renewals, were registered; 248 business names were registered; and 4 bulk sales documents were filed and registered.

There were issued 5 duplicate copies of brokers' licenses and business names, for which purpose the amount of ₱13.50 was collected. The sum of ₱6.50 was also collected in penalties for late renewal of brokers' licenses, and the registration of aliases.

About 117 pieces of correspondence regarding brokers and aliases were prepared.

#### 5. COÖPERATIVE MARKETING AND CREDITS DIVISION

The coöperative marketing associations in actual operation handled, during the year, agricultural products valued at approximately ₱3,000,000.

*Rural credit*—A provincial federation of agricultural credit coöperative association in the Province of Oriental Negros was established. This is the second federation organized during the year.

The collections made for the Rice and Corn Fund were as follows:

For principal .....	₱3,189.09
For interest .....	2,941.89
<b>Total .....</b>	<b>₱6,080.98</b>

In view of the fact that House Bill No. 4169 was vetoed by former Governor-General Murphy, the operation of the Rice and Corn Fund, as far as it concerns the granting of new loans and the extension of old loans, has been practically suspended, but collection has been carried on more intensively than ever.

The passage of Commonwealth Act No. 7 virtually takes away from this Bureau the administration of the Rice and Corn Fund. The effect on the rural credit work of the transfer of the Rice

and Corn Fund to the National Loan and Investment Board is a subject for conjecture.

#### 6. THE MANILA TRADING CENTER AND EXCHANGE

During the brief period under review, and especially during the two weeks preceding Christmas day, the Manila Trading Center and Exchange was as busy as any business establishment in the City. The total sales from November 15 to December 31, inclusive, amounted to ₱13,317.77, as compared with ₱8,354.96, the total sales during the same period last year, or an increase of 59 per cent. The notable increase in the sales during the Christmas season made it necessary for the Division to recruit a number of employees from other divisions of the Bureau to take care of the public.

The Bureau of Commerce, through the Manila Trading Center and Exchange, participated in the petit carnivals and town fairs held in Lucena, Tayabas, and Boac, Marinduque, at the town fiestas of these towns. Aside from the fact that a fair volume of sales was made at these fairs, the value of information given to the people on these occasions and the exhibition of varied products manufactured in other parts of the country, which they might not have seen before, cannot be overestimated.

Special lines of goods, particularly wearing apparel and food-stuffs, were in great demand during the period. The development of the market for these goods has encouraged a great number of private merchants to deal in them.

#### THE WEATHER BUREAU

##### 1. METEOROLOGICAL DIVISION

November 29 the China Clipper arrived in Manila on its initial flight from San Francisco to the Orient. It departed for San Francisco December 2. December 16 the Philippine Clipper arrived, but its departure was delayed until December 22, because of a typhoon in the Pacific Ocean. The Weather Bureau coöperated with the Pan-American officials in forecasting the weather for these flights over the ocean regions between the Philippines and Guam. Extra observations were ordered from selected stations as the planes approached the Archipelago.

Since the arrival of the Philippine Clipper the Weather Bureau has been giving assistance to the Pan-American officials in their plans for establishing an office for forecasting weather for their service.

Upper-air data, that is, wind direction and velocity at various levels, obtained by means of pilot balloons, have been broadcast in code with the regular weather data, beginning December 15.

Three typhoons occurred during December, of which two crossed the Philippines. No depressions were reported.

The first typhoon, that of December 1 to 12, formed over the Eastern Caroline Islands December 1, moved west by north, then north for a short time, then northwest, passing about 120 miles southwest of Guam the morning of December 4. The typhoon gradually inclined from the northwest course to the west as it progressed across the ocean, and was located about 480 miles east of northern Luzon the morning of December 8. It began to move more rapidly from this position, changing its course more to the west southwest. The morning of December 9 found it between Tuguegarao and Echague, moving southwest, much decreased in intensity. It continued across Central Luzon, entering the China Sea close to and north of Iba. In the China Sea, it approached and entered Indo-China as a depression.

The second typhoon appeared as a depression over the Eastern Caroline Islands December 17. This disturbance moved west northwest and became intensified into a typhoon about 300 miles south southeast of Guam. Changing to the northwest, and then inclining to the west northwest, it reached the 15th parallel of latitude where it moved in a westerly direction (December 21). Then, shifting to the west southwest and later west, it approached southern Luzon along the fourteenth parallel of latitude. Moving directly west, it crossed the Archipelago December 23 and 24, affecting the Catanduanes Islands, both Camarines Provinces, Tayabas, southern Laguna, and Batangas Provinces. It filled up rapidly in the China Sea, no trace of it being found December 27.

Newspapers reported a loss of 28 lives due to this typhoon. The steamship *Golden Peak* was grounded. The steamship *Santa Filomena* was wrecked without any loss of life.

**2. SEISMIC AND MAGNETIC DIVISION**

Ninety-nine earthquakes were recorded. Nineteen earthquakes were reported as felt in the Philippines, one of them being felt in Manila.

The usual monthly reports were issued.

Reports of perceptible earthquakes from Public School teachers continue to come to the Observatory, through the National Research Council, in a satisfactory manner.

Manila seismograms were loaned, in answer to special requests, to the Dominion Observatory, Ottawa, Canada, and to the Geophysical Institute, Triest, Italy.

During this period there were three moderate and one slight magnetic disturbances.

**3. ASTRONOMICAL DIVISION**

*The time service.*—The daily transmission of time signals to the telegraph office of the Bureau of Posts, to the Manila Railroad, and to the radio station of the U. S. Navy at Cavite, was continued at the hours already mentioned in the report for the year up to November.

Following are the mean errors of the time signals for the months of November and December:

November .....	0.018 section
December .....	0.024 section

During November and December there were no failures in the time service of the Observatory.

Time determinations were made with the Repsold Broken Transit.

**THE FIBER INSPECTION SERVICE**

During the period under review the Fiber Inspection Service continued the work of maintaining a uniform standard of classification for abacá and other Philippine fibers intended for export, keeping a close supervision over the work of all the grading establishments, making a thorough inspection of all the fibers intended for export, and of furnishing the trade with statistical data concerning the balings, export, and stock of Philippine fibers which have been inspected and approved.

*Inspection stations.*—During the period under review the following fiber inspection stations were maintained by the Fiber Inspection Service: Manila, as District Station No. 1; Cebu, as District Station No. 2, with Malitbog and Baybay, Leyte, as inspection and substations; Davao, as District Station No. 3, with Talomo, Palison, Pantukan, and Hadaum as inspection substations; and Legaspi, Albay, as District Station No. 4, with Tabaco, Albay; Tigaon and Sabang, Camarines Sur; and Bulan, Sorsogon, as inspection substations.

No new inspection substations were organized or opened during the period.

*Fiber-grading establishments.*—Fifty-two fiber-grading establishments were in operation from November 15 to December 31.

The following is a tabulation of the number of bales of abacá and other Philippine fibers that were inspected and approved by the Fiber Inspection Service during the period, November 15 to December 31, 1935, side by side with those which were inspected and approved during a similar period in 1934 and 1933, respectively:

	Nov. 15 to Dec. 31, 1935	Nov. 15 to Dec. 31, 1934	Nov. 15 to Dec. 31, 1933
Abacá	167,566	170,000	168,883
Deco	1,525	652	269
Maguey	19,331	8,644	11,143
Canton	3,050	2,281	2,275
Pacol			
<b>Totals</b>	<b>191,472</b>	<b>181,577</b>	<b>182,570</b>

#### THE STATISTICS DIVISION

*Scope of work.*—As in the months immediately preceding November 15, the bulk of the work undertaken by the Division of Statistics consisted of information-giving. During the last 45 days of the year, the Division received and disposed of 2,115 requests for statistical data and information on various subjects; such as agriculture, commerce, industry, finance, mining, education, transportation, and communication. The Statistics Division furnished prominent members of the Congressional Delegation from the United States, who attended the Inauguration of the Commonwealth, with statistical data and information relative to the Philippine Islands. Among the

prominent callers after the Inauguration of the Commonwealth were Senator King of the U. S. Senate, Congressman F. L. Crawford of Michigan, and the various newspaper men who formed part of the congressional party. Assistance was likewise rendered to the Second Business Men's Convention by furnishing the committee thereof and various delegates with statistical data regarding the Philippine Islands. The Division has also cooperated in preparing statistical data and assembling the different reports of the Directors who are members of the Departmental Committee on Trade Relations. As a matter of fact, Volume II, constituting the supplement of the report of this committee, has been prepared exclusively by this Division.

*Publications.*—During the 45 days under review, the Division issued the "Economic and Social Conditions of the Philippines," a sort of supplement to Volume II of the Philippine Statistical Review. Volume II, No. 3, of the Review was also issued, and the materials of No. 4 of this publication were prepared and the galley-proofs read during these 45 days. To serve as a guide to the different "Tour Guides" assigned by the Reception and Entertainment Committee of the Commonwealth Inauguration, this Division undertook the preparation and publication, in mimeographed form, of a leaflet entitled "Facts and Figures about the Philippines, 1935."

*Reports compiled.*—During the period under review this Division had compiled 42,974 crop reports, 2,191 livestock reports, 5,555 commerce and industry reports, and 3,795 mineral reports.

*Publications received.*—During the month under review, this Division received 93 statistical yearbooks, pamphlets, and other publications from 31 countries of the world. This Division maintains a regular exchange of statistical publications with other countries.

#### THE PUBLICATIONS DIVISION

The Publications Division continued its work of editing or supervising the editing of the periodicals and publications of the Department; multigraphing and mimeographing office forms, circulars, orders, and letters for the different bureaus, offices, and divisions; undertaking the translation and the photographic work of the Department; and repairing the books of the Scientific Library.

## EDITORIAL SECTION

*The Philippine Journal of Science.*—The March, 1936, issue was prepared and is about to be sent to the printer.

*Translation.*—The following pamphlets and articles were translated to Tagalog:

The Culture of Bermuda Onion (Revised)  
 Guide for Homesteaders  
 Effect of Fish Meal on Chicks  
 Garlic Culture in the Philippines  
 Inaugural Address of the President of the Commonwealth of the Philippines  
 Appendix to the Inaugural Address of the President of the Commonwealth of the Philippines.  
 Message of the President of the Commonwealth of the Philippines (National Defense), address at the First Special Session of the First National Assembly  
 Message of the President of the Commonwealth of the Philippines (National Economic Program)  
 Speech of the President of the Commonwealth of the Philippines (in closing the First Special Session of the National Assembly)  
 A Special Circular of the Department of the Interior  
 Advantages of the Irrigation System in the Philippines

## CIRCULATION SECTION

*Publications released.*—During the period under review five publications were released. These were:

Philippine Journal of Science, November, 1935.  
 Philippine Journal of Commerce, November, 1935.  
 Philippine Journal of Commerce, December, 1935.  
 Philippine Statistical Review, third quarter, 1935.  
 Annual Report of the Bureau of Commerce, 1934.

*Publications distributed.*—The following publications were distributed during the period under review:

	Copies
Bulletins .....	80
Circulars and pamphlets. ....	1,288
Reports .....	214
Other publications .....	36
Philippine Journal of Science .....	1,000
Philippine Journal of Commerce .....	2,000
Philippine Statistical Review .....	650
<b>Total .....</b>	<b>5,268</b>

## ILLUSTRATING SECTION

*Drafting work.*—The work done by the Division's draftsmen and artisan was as follows:

Plates for the Philippine Journal of Science	68
Textfigures for the Philippine Journal of Science	3
Coats of arms..	6
Cover designs for the Philippine Journal of Commerce	2
Stencil design .....	1
Portrait of Governor-General Frank Murphy	1
Signs ..	2
Sign names with gold lettering	2
Sign names for the Publications Division	16
Placard frames for the Publications Division and several letterings and sundry drawings.....	13

## DUPLICATING SECTION

*Multigraph and mimeograph shop.*—During the period since the inauguration of the Commonwealth, 557,176 pages were multographed and mimeographed.

*Bindery shop.*—The following shows the work done in the bindery shop from the inauguration of the Commonwealth to December 31, 1935:

Nature of work	Quantity
Books in full binding.....	189
Books in half binding.....	4
Publications in cardboard binding	13
Pads, assembled, stitched, perforated, numbered, and covered .....	1,658
Invitation cards numbered in duplicate.....	500
Publications in paper-cover binding .....	57
Album paper (cutting only).....	168
Books (labeling in gold only).....	8

## THE NAVIGATION DIVISION

*Operation of vessels.*—Three trips were made by the steamers of the Navigation Division during the period covered by this report, as follows: The Cutter "Banahao" made the last regular lighthouse inspection trip for the year to the Western and Northern coasts of Luzon from November 25 to December 6. While in the North the "Banahao" extended its cruise to the Batanes Islands for patrol work in connection with the enforcement of the fisheries and the Customs laws.

The Cutter "Canlaon" left Manila December 14, transporting lepers and employees of the Bureau of Health for Culion. It

returned to Manila, December 18, after inspecting the Tubbataha light station in the Sulu Sea. This Cutter also cleaned the buoys in the Manila Harbor December 16 and 17.

The Launch "Ethel" made 19 trips in the River and Harbor for miscellaneous transportation purposes of this Division, including inspection and repairing nearby lighthouses.

The wooden scow was also used 12 times during this period in connection with the loading and unloading of the steamers and other hauling services of this Division, the Bureau of Customs, and the Marine Railway and Repair Shops.

On the date of the inauguration of the Commonwealth, all the vessels were in Manila. Due to lack of equipment, only part of the crew participated in the military unit of the Inauguration Parade. The rest went with the civilian units.

The condition of the vessels on the date of the inauguration of the Commonwealth were as follows: The Cutters "Banahao" and "Canlaon" were in first-class condition. However, the Steamship "J. Bustamante" was in poor condition, and so was the wooden scow. The Launch "Ethel" was in fair condition. All the vessels were due for the regular inspection and cleaning of the bottom before the end of the year, but due to lack of funds none was drydocked.

During the period covered by this report the steamers cruised over a distance of 2,116 miles and called at 43 places. They transported 143 passengers and 67 tons of cargo, mostly lighthouse supplies, and consumed 33,460 gallons of fuel oil.

*Lighthouse service.*—During the period covered by this report, only one new light was established; namely, an anchorage light buoy, painted red and showing one white flash every second, approximately one mile distant from the red light at the southeast end of the south breakwater, Manila Harbor. The installation of this light was strongly recommended by the Light-house Board to remedy the rather anomalous situation of some incoming ships anchoring dangerously close to the breakwater while others anchor too far away from it, brought about by the natural difficulty of distinguishing the breakwater lights from the many colored shore lights facing the bay.

The typhoon of December 24 wrought appreciable damages to the Canimo lighthouse, Mercedes, Camarines Norte, as well as to the Paniganiban light station, Paniganiban, Catanduanes, Albay. The former was so severely hit that even the apparatus

of the light was considerably damaged, necessitating the sending of lighthouse machinists to repair it. Nonetheless, the display of the lights in both instances did not suffer any prolonged impairment, as remedial measures were promptly taken.

The year closed with a few remaining repair projects still unfinished due to the difficulty of transportation of men and materials to and from the isolated places in which they are situated. Proper representations were made to the Bureau of Public Works for the expeditious completion of these projects and assurance was given that they would be attended to with the least possible delay.

#### THE VETERINARY EXAMINATION BOARD

There is nothing to add to the narrative report of this Board for the period from January 1 to November 14, 1935, inclusive. The membership of the Board remained unchanged and no business was transacted from November 15 to December 31.

#### THE BOARD OF EXAMINERS FOR SURVEYORS

EXAMINATIONS		Applicants	Passed
Kind			
Mineral land surveyor	.....	10	4
Private land surveyor	.....	19	10
<b>Total</b>	.....	<b>29</b>	<b>14</b>

#### CERTIFICATES ISSUED

	Number
For private land surveyors	11
For cadastral land surveyors	1
For mineral land surveyors	4
<b>Total</b>	<b>16</b>

#### MEETINGS

	Number
Number of meetings held during the period	7

#### ADMINISTRATIVE CASES

	Number
Cases dismissed (1934)	10
Administrative cases pending on November 16, 1935	40
Case dropped (1934)	1
Administrative cases received from November 15, 1935 to December 31, 1935	9
Cases settled already (1934)	2
Administrative cases decided by the Board	13
Administrative cases acted but not finished	49

## V. FINANCIAL STATEMENT

The following tables, prepared by the Supervisor of Accounts of the Department, show the financial status of the various branches of the Department from November 15 to December 31, 1935:

## OFFICE OF THE SECRETARY AND SPECIAL DIVISIONS

Item	November 15 to December 31		
	1935	1934	Change Increase Decrease
<b>MALARIAL AND WAGES</b>			
Salaries and wages, itemized, permanent and temporary	<i>Pesos</i>	<i>Pesos</i>	<i>Pesos</i>
Salaries and wages, lump sum, temporary	36,399.16	22,650.44	13,652.72
Salaries of lightkeepers	2,582.86	11,591.46	9,012.80
Salaries of officers and crews	<b>14,767.79</b>	<b>12,115.61</b>	<b>+ 2,652.18</b>
Subsistence of officers and crews	4,461.20	4,680.80	- 249.60
Clothing allowances, crew of vessels	22.90	166.57	- 143.67
Ration in kind to lightkeepers and boatmen	260.19	1,295.82	- 1,035.63
Total salaries and wages	<b>58,874.10</b>	<b>52,510.60</b>	<b>- 6,363.50</b>
<b>SUNDRY EXPENSES</b>			
Traveling expenses of personnel	774.87	512.56	- 262.31
Freight, express and delivery service	311.64	69.74	- 241.90
Postal, telegraph, telephone, cable and radio service	723.01	694.57	- 29.44
Illumination and power service	765.56	507.37	- 260.19
Miscellaneous service	368.45	563.49	- 194.94
Rental of buildings and grounds	146.89	98.90	- 37.99
Consumption of supplies and materials	<b>10,287.44</b>	<b>20,306.38</b>	<b>- 10,068.94</b>
Traveling expenses of persons not government employees	80.00	9.77	- 70.23
Printing and binding reports, documents, and publications	34,853.62	8,357.76	- 26,495.86
Maintenance and repair of equipment	10,713.76	5,163.80	- 5,547.96
Extraordinary losses	746.39	-	- 746.39
Total sundry expenses	<b>69,709.73</b>	<b>36,272.34</b>	<b>- 26,437.39</b>
<b>FURNITURE AND EQUIPMENT</b>			
Purchase of furniture and equipment	<b>2,908.50</b>	<b>1,911.18</b>	<b>997.32</b>
Grand total	<b>120,992.33</b>	<b>90,694.12</b>	<b>- 30,298.21</b>

NOTE. The 1934 expenses of the Special Divisions (including the Accounting and Property Division) which were returned to the Bureaus on January 1, 1935, have been deducted from this statement and added to the statements for the said Bureaus.

## BUREAU OF PLANT INDUSTRY

Comparative statement of expenditures for the period November 15 to December 31, fiscal years 1935 and 1934

Items	November 15 to December 31		
	1935	1934	+ Increase - Decrease
<b>BALANCES AND WAGES</b>			
Salaries and wages, itemized	25,941.88	26,477.01	- 485.18
Salaries and wages, lump sum	25,945.98	7,633.16	+ 19,272.77
Total salaries and wages	52,897.86	34,110.17	+ 18,787.59
<b>SPENDARY EXPENSES</b>			
Traveling expenses of personnel	3,728.87	4,794.88	- 1,066.01
Freight, express and delivery service	1,174.69	659.99	+ 514.70
Postal, telegraph, telephone, cable and radio service	1,621.22	849.16	+ 762.06
Electrician and power service	611.34	394.21	+ 217.13
Mail, telephone service	6,865.70	236.28	+ 6,629.44
Rental of buildings and grounds	81.20	89.04	- 7.84
Consumption of supplies and materials	7,633.15	4,892.70	+ 2,740.15
Maintenance and repair	885.81	114.18	+ 771.18
Extraordinary losses		8.72	- 8.72
Total sundry expenses	22,603.48	12,044.09	+ 10,559.39
<b>FURNITURE AND EQUIPMENT</b>			
Purchase of furniture and equipment	1,838.91	683.71	+ 1,205.20
<b>SPECIAL APPROPRIATIONS</b>			
Locust Scouting Act No. 3163	4,954.65	4,375.89	+ 579.26
Contributions and gratuities, agricultural pests	4,860.15	5,066.55	- 706.40
Total special appropriations	9,814.80	9,441.94	127.14
Total general fund	36,651.95	66,229.91	+ 30,425.04
<b>SPECIAL FUNDS UNDER SPECIAL ACTS</b>			
Locust Belo Fund		6,388.80	6,388.80
Protection of agricultural industry, Act 3-27	3,920.85	766.40	+ 3,154.45
Fiber research campaign, Act 3243	4,376.12	4,189.74	+ 186.38
Additional Locust Fund, Act 4125	24,471.00	3,710.98	+ 20,760.02
Locust Belo control, Act 3910		652.06	652.06
Protection of new and improvement of existing industries, Act 3-53	1,168.70	869.65	+ 299.05
Tobacco fund, Acts 2613 and 3179	16,429.99	6,001.69	+ 10,428.30
Improvement of tobacco industry	115.50		+ 115.50
Seed Fund, Acts 3443 and 4624	14,706.68	9,370.84	+ 24,077.52
Typhoon fund, Act 3527	1,694.53	1,622.33	+ 72.20
Total special funds	87,470.01	33,602.49	+ 3,867.52
Grand total	124,124.96	89,832.40	+ 34,292.56

## BUREAU OF ANIMAL INDUSTRY

Comparative statement of expenditures for the period November 15 to December 31, fiscal years 1935 and 1934

Items	November 15 to December 31		
	1935	1934	+ Increase - Decrease
<b>SALARIES AND WAGES</b>			
Salaries and wages, itemized	30,856.29	24,688.98	+ 6,177.36
Salaries and wages, lump sum	4,918.64	5,474.14	- 555.50
<b>Total salaries and wages</b>	<b>35,784.93</b>	<b>30,163.07</b>	<b>+ 5,621.86</b>
<b>SUNDY EXPENSES</b>			
Traveling expenses of personnel	3,299.82	4,549.33	818.51
Postage, express and delivery services	265.07	377.91	112.84
Postal, telegraph, telephone and cable services	470.06	548.93	78.87
Illustration, art and power services	316.57	321.94	1.97
Miscellaneous services	357.28	563.16	205.88
Rentals—bird traps and grounds	108.48	114.20	5.72
Consumption of supplies and materials	5,057.81	5,513.77	456.96
Maintenance and repair of equipment	250.05	152.62	99.43
<b>Total sundy expenses</b>	<b>10,581.17</b>	<b>12,171.46</b>	<b>-1,590.29</b>
<b>FURNITURE AND EQUIPMENT</b>			
<b>Purchase of furniture and equipment</b>	<b>352.65</b>	<b>782.74</b>	<b>430.09</b>
<b>SPECIAL APPROPRIATIONS</b>			
Rinderpest campaign, Act 3186	7,313.96	6,591.43	+ 722.53
Contributions and gratuities, etc	2,972.66	3,181.06	208.40
<b>Total special appropriations</b>	<b>10,286.62</b>	<b>9,772.49</b>	<b>+ 514.13</b>
<b>Total expenses, general fund</b>	<b>57,005.37</b>	<b>52,889.76</b>	<b>+ 4,115.61</b>
<b>SPECIAL FUNDS UNDER SPECIAL ACTS</b>			
Stock herds and farms, breeding stations and slaughterhouses, Nos. 2758 and 3532	2,085.85	5,823.39	3,737.54
Protection and development of national industries, Act 1953	2.13	(86.88)	- 89.01
<b>Total expenses, special funds</b>	<b>2,087.98</b>	<b>5,736.51</b>	<b>- 8,648.53</b>
<b>Grand total</b>	<b>59,093.35</b>	<b>58,626.27</b>	<b>+ 467.08</b>

## BUREAU OF FORESTRY

*Comparative statement of expenditures for the period November 15 to December 31, fiscal years 1935 and 1934*

Items	November 15 to December 31		
	1935	1934	Per cent Increase or Decrease
<b>SALARIES AND WAGES</b>			
Salaries and wages, itemized	66,633.58	61,127.60	+ 6,505.98
Salaries and wages, lump sum	1,148.07	2,064.28	- 877.21
Total salaries and wages	67,820.65	62,191.88	+ 5,628.77
<b>SUNDRY EXPENSES</b>			
Traveling expenses of personnel	7,965.74	6,115.24	+ 1,840.50
Postage, express, and telephone, etc., etc.	492.56	273.28	+ 225.38
Postal, telegraph, telephone, and radio service	1,630.30	1,189.05	+ 441.25
Illustrations and power of service	233.40	453.61	- 220.21
Miscellaneous service	497.54	182.39	+ 312.15
Rental of buildings and grounds	1,253.24	1,411.03	- 156.79
Consumption of supplies and materials	4,540.19	2,465.94	+ 2,075.25
Traveling expenses of personnel, government employees	71.60	45.10	+ 36.50
Maintenance and repair of equipment	206.00	124.22	+ 111.78
Total sundry expenses	16,921.57	12,260.81	+ 4,660.76
<b>FURNITURE AND EQUIPMENT</b>			
Purchase of furniture and equipment	357.00	372.58	- 215.58
<b>SPECIAL APPROPRIATIONS</b>			
Classification of public lands, Act 2906	3,735.89	1,926.64	+ 1,809.25
Industrial demonstration and promotion work	86.30	10.98	+ 75.37
Maintenance, operation, and improvement of National Parks, Act 3913	400.26	136.96	+ 263.30
Reforestation, Act 3283	992.68	1,058.34	- 65.66
Total special appropriation	5,215.13	3,132.97	+ 2,082.26
<b>Grand total, Act 4187</b>	<b>90,814.85</b>	<b>78,158.14</b>	<b>+ 12,156.21</b>

## BUREAU OF LANDS

*Comparative statement of expenditures for the period November 15 to December 31, fiscal years 1935 and 1934*

Item	November 15 to December 31		
	1935	1934	Percent Increase Decrease
<b>SALARIES AND WAGES</b>			
Salaries and wages itemized	92,514.82	85,951.47	7,563.35
Salaries and wages lump sum	12,240.08	11,121.70	1,118.38
<b>Total salaries and wages</b>	<b>105,754.90</b>	<b>97,073.17</b>	<b>8,681.73</b>
<b>SDUNDRY EXPENSES</b>			
Traveling expenses of personnel	7,282.63	8,388.43	1,105.80
Freight, express, and delivery service	641.61	451.50	146.11
Postal, telegraphic, telephone, radio, and cable service	2,051.72	1,751.32	322.40
Insulation and power service	711.83	671.19	41.64
Miscellaneous service	1,411.15	1,411.34	28.81
Rent of buildings and grounds	1029.84	428.97	105.23
Consumption of supplies and materials	6,084.02	5,845.92	239.00
Traveling expenses of persons not government employees		5.96	5.96
Maintenance and repair of equipment	330.67	149.91	180.76
Disposition of supplies and materials		42.06	42.06
Extraordinary losses	80.80	3.17	77.63
<b>Total sundry expenses</b>	<b>18,978.87</b>	<b>19,197.97</b>	<b>219.70</b>
<b>FURNITURE AND EQUIPMENT</b>			
Purchase of furniture and equipment	74.92	527.36	452.44
<b>SPECIAL APPROPRIATIONS</b>			
Investigation and survey of homesteads	11,652.79	11,355.77	297.02
Survey and sub-division of public lands	16,511.76	10,581.01	5,967.75
Survey verification fund	4,017.73	3,071.66	943.07
Friar Lands Estate	12,962.36	34,431.67	21,529.31
San Lazaro Estates	1,732.88	1,979.16	246.28
<b>Total special appropriations</b>	<b>46,857.52</b>	<b>61,425.27</b>	<b>14,567.75</b>
<b>Grand total</b>	<b>171,666.61</b>	<b>176,227.77</b>	<b>6,562.16</b>

## BUREAU OF SCIENCE

*Comparative statement of expenditures for the period November 15 to December 31, fiscal years 1935 and 1934*

Items	November 15 to December 31		
	1935	1934	Increase or Decrease
<b>BALANCES AND WAGES</b>			
Salaries and wages, remunerated	57,222.83	36,332.59	+1,296.24
Salaries and wages, lump sum	8,438.32	9,411.28	-952.96
Salaries and wages, processing tax week	730.34		+730.34
Total salaries and wages	66,391.59	45,743.87	+1,127.72
<b>BUDGET EXPENSES</b>			
Traveling expenses of personnel	1,818.00	1,711.04	+106.92
Postage, express and telephone service	519.46	311.23	+234.17
Postage, telephone, teletype and cable service	1,330.10	1,054.17	+376.02
Restaurant and power service	328.88	274.93	+53.95
Miscellaneous service	1,718.86	2,873.19	-1,154.33
Rental of buildings and grounds		79	-79
Consumption of supplies and materials	13,841.79	12,224.66	+1,617.13
Maintenance and repair of equipment	1,222.19	159.67	+1,062.52
Extra money boxes	206.64		+206.64
Total sundry expenses	20,702.73	18,613.78	+2,088.95
<b>FURNITURE AND EQUIPMENT</b>			
Purchase of furniture and equipment	3,571.91	4,673.25	-1,101.34
<b>SPECIAL APPROPRIATIONS</b>			
Development of fishing industry, Act 4003	2,466.86	1,463.88	+1,002.98
Total general fund	73,513.09	70,394.78	+3,118.31
<b>SPECIAL FUNDS UNDER SPECIAL ACTS</b>			
Fisheries Fund, Act 3907	4,473.97	2,492.51	+1,981.46
National Industries Fund, Act 39053	1,428.91		+1,428.91
Total special funds	5,902.88	2,492.51	+3,410.37
Grand total	79,415.97	72,887.29	+6,528.68

## BUREAU OF COMMERCE

*Comparative statement of expenditures for the period November 15 to December 31, fiscal years 1935 and 1934*

Items	November 15 to December 31		
	1935	1934	Decrease Decrease
			Person
<b>SALARIES AND WAGES</b>			
Salaries and wages, itemized	16,108.55	14,767.58	+ 1,340.97
Salaries and wages, lump sum	952.44	1,680.55	- 728.11
<b>Total salaries and wages</b>	<b>17,060.98</b>	<b>16,458.13</b>	<b>+ 609.86</b>
<b>SPENDY EXPENSES</b>			
Traveling expenses of personnel	963.87	2,250.51	1,286.64
Traveling expenses of commercial and cooperative program, in agents	503.89	2,135.06	1,631.17
Postage, express, and delivery service	110.50	521.61	411.11
Postal, telephone, telegraph and cable service	1,366.93	2,902.32	1,535.39
Telephone and power service	122.48	430.83	308.35
Mail collection service	89.84	275.61	185.77
Heat, light, fuel, water and grounds	1,289.09	1,702.34	512.24
Consumption of supplies and materials	862.08	1,304.51	542.43
Marketing and export of crops	221.99	267.38	65.48
Disposition of supplies and materials		2,915.97	2,915.97
<b>Total sundry expenses</b>	<b>5,621.34</b>	<b>14,931.14</b>	<b>9,409.80</b>
<b>FURNITURE AND EQUIPMENT</b>			
Purchase of furniture and equipment	1,080.04	521.27	+ 558.77
<b>SPECIAL APPROPRIATIONS</b>			
Commercial and industrial investigation, etc	391.19	1,478.60	1,087.41
Commercial agency in U. S., Act 8442	5,292.60	7,106.46	1,813.86
<b>Total special appropriations</b>	<b>5,683.79</b>	<b>8,585.06</b>	<b>2,901.27</b>
Total general fund	29,296.16	40,488.60	11,292.44
<b>SPECIAL FUNDS UNDER SPECIAL ACTS</b>			
Rice and Corn Fund, Act 2818, as amended	3,758.79	3,360.44	+ 398.35
Manila Trading Center and Exchange	1,409.93	1,485.48	- 76.55
<b>Total special funds</b>	<b>5,168.72</b>	<b>4,845.92</b>	<b>+ 322.80</b>
<b>Grand total</b>	<b>34,464.88</b>	<b>45,334.52</b>	<b>10,869.64</b>

## WEATHER BUREAU

Comparative statement of expenditures for the period November 15 to December 31, fiscal years 1935 and 1934

Items	November 15 to December 31		
	1935	1934	Percent Increase Decrease
<b>Salaries and wages</b>			
Salaries and wages authorized	1,288.62	1,200.26	1,208.37
Salaries and wages lump sum	30.67		30.67
<b>Total salaries and wages</b>	<b>1,319.29</b>	<b>1,200.26</b>	<b>1,208.37</b>
<b>Sundry expenses</b>			
Traveling expenses of personnel	89.13	121.99	1,708.14
Freight, express and delivery service	1.89	20.55	156
Postal, telegraph, telephone, cable and radio service	2,931.11	5,008.10	2,672.97
Illumination and power service	74.71	62.55	78.15
Rental of buildings and grounds	188.54	1,255.90	1,065.66
Consumption of supplies and materials	916.88	2,291.77	1,374.89
Maintenance and repair of equipment	31.28	18.84	175.45
Miscellaneous service	11.46	1.33	1,109.32
<b>Total sundry expenses</b>	<b>5,142.01</b>	<b>9,540.13</b>	<b>1,392.12</b>
<b>Furniture and equipment</b>			
Purchase of furniture and equipment	6,008.67	2,157.22	+8,851.45
<b>SPECIAL APPROPRIATION</b>			
Maintenance and repair of radio apparatus	219.39	720.18	-490.26
<b>Grand total</b>	<b>27,695.36</b>	<b>24,457.74</b>	<b>+3,237.62</b>

## FIBER INSPECTION SERVICE

Comparative statement of expenditures for the period November 15 to December 31, fiscal years 1935 and 1934

Items	November 15 to December 31		
	1935	1934	+ Increase - Decrease
<b>GENERAL ADMINISTRATION</b>			
Salaries	2,514.61	2,251.41	+1,662.20
Wages	210.42	208.77	+6.65
Travel expenses of personnel	2.40	4.16	-1.76
Postal, telegraph, telephone and radio service	37.61	46.73	-9.12
Illumination and power service	27.30	4.09	22.27
Miscellaneous service	4.19	10.49	-6.30
Rental of buildings and grounds	3,088.61	525.89	155.89
Consumption of supplies and materials	92.14	85.60	33.16
Maintenance and repair of equipment	17.16	18	-1.87
Outlays	95.35	16.39	80.96
<b>Total general administration</b>	<b>33,397.71</b>	<b>3,150.66</b>	<b>+30,247.05</b>
<b>FIBER INSPECTION</b>			
Salaries	1,018.10	9,416.08	+1,602.02
Travel expenses of personnel	1,040.26	561.33	+478.93
Freight, express and delivery service	6.18	44	-1.28
Postal, telegraph, telephone and radio service	1,331.14	92.72	+1,238.47
Miscellaneous service	1.12	11.08	-10.96
Rental of buildings and grounds	1.19	16.79	-14.60
Consumption of supplies and materials	174.36	58.92	120.44
Maintaining and repairing reports, etc.		19.26	-1.26
Maintenance and repair of equipment		1.38	-1.38
<b>Total fiber inspection</b>	<b>12,527.86</b>	<b>10,329.00</b>	<b>+2,198.86</b>
<b>Grand total</b>	<b>35,925.11</b>	<b>13,519.66</b>	<b>+2,405.95</b>

**VI. RECOMMENDATIONS**

There are submitted the recommendations of the various bureaus, divisions, and boards under this Department:

**BUREAU OF PLANT INDUSTRY**

1. In order that this Bureau may be enabled to expand its research and extension activities, properly equip its laboratories, provide sufficient means for its field workers who undertake an ever-increasing volume of field activities and otherwise produce greater results than has been accomplished heretofore, it is recommended that a greater appropriation be secured for the Bureau of Plant Industry.

2. To meet the urgent need for the establishment of small-unit factories, so that the progress of our industrialization program may be hastened and in order that the growers of new crops be encouraged to produce the needed raw materials without which the establishment of large commercial factories cannot be undertaken, it is earnestly recommended that the fund authorized under Act No. 4274 for the establishment, maintenance, and operation of a small sack factory for the purpose of reviving the maguey industry and for improving the abacá industry, be released at an early date, and that additional funds for the promotion of existing industries and the development of new ones be likewise released from the appropriation made under Act No. 3953.

3. The present method of campaigning against the locusts having been found unsatisfactory, it is believed that for the best interests of the public in general and in order to combat the pest more effectively, the direct supervision and control over the locust campaign work should be returned to the Bureau of Plant Industry. Many provincial and municipal officials in whose hands the direct control of the locust control work has been placed since September of 1934, have been found quite lax in the performance of their duties under the Locust Act (No. 2472).

4. A recommendation is likewise made herein for the sending of a Filipino representative to the International Locust Conference to be held in Cairo this coming March, in response to an invitation extended to us by Dr. B. P. Uvarov of the Imperial Institute of Entomology of London. Our participation in this conference will surely be of great value to the country because additional knowledge will be acquired with respect to the modern methods of controlling locust employed in other countries. An

extensive study of the biology, ecology, and control of the locust pest has been conducted in Egypt during the last five years, particularly in 1928 and 1929, for which that country spent more than ₩2,000,000, and certainly an exchange of views with experts and other authorities on locust control from all over the world will prove of incalculable scientific value to our research workers.

5. Lastly, a better scale of salaries for our technical personnel is recommended to place this Bureau's technical workers at least in the same category as those of other bureaus, and incidentally to encourage them further in the pursuit of their multifarious activities. Compared with other technical employees in the Philippine Government undertaking work of similar importance, those of the Bureau of Plant Industry receive the lowest compensation.

#### BUREAU OF ANIMAL INDUSTRY

1. Additional appropriation should be provided for the establishment of more stock farms and breeding stations in the provinces and for the purchase of breeding animals;

2. A position of biochemist should be created for the Veterinary Research Division;

3. A pensionado should be sent abroad to specialize in animal husbandry and another to study the manufacture of milk and meat products;

4. Legislation to increase the tariff on the importation of animal products should be recommended to the National Assembly;

5. Act No. 3953 should be amended so as to make the fund therein appropriated as a revolving fund;

6. A bill appropriating funds for the eradication of rabies by vaccination should be recommended for enactment;

7. The following proposed legislation should be resubmitted to the National Assembly:

(a) An Act to amend Act Numbered Twenty-seven and fifty-eight, as amended, so as to extend its operation to the experiments and research on the manufacture, preservation, and utilization of animal products and for other purposes.

(b) An Act to appropriate the sum of twenty-three thousand two hundred seventy-seven pesos for the purchase of the Friar Land Estate in the Municipality of Muntinlupa, Province of Rizal, now occupied by the Alabang Stock Farm of the Bureau of Animal Industry.

(c) An Act to amend section one thousand seven hundred and sixty five, paragraph (f) of Act Numbered Twenty-seven hundred and eleven, known

as the Administrative Code. (Regarding establishment, maintenance, supervision and control of municipal slaughterhouse and milk inspection system.)

(d) An Act amending section nine hundred fifty four of Act Numbered Twenty-seven hundred eleven, known as the Administrative Code. (Regarding the inclusion of a veterinarian in the membership of the Council of Hygiene.)

(e) An Act appropriating the sum of fifty-thousand pesos for the control and eradication of foot-and-mouth disease and other contagious animal diseases at present threatening the livestock industry of the country, and for other purposes. .

#### BUREAU OF FORESTRY

1. With a view to averting strikes and other labor disturbances due to delay or nonpayment of wages of laborers employed in lumbering and logging operations, or due to bankruptcy of the operators, the wages of laborers to the amount corresponding to three months wages should be insured with insurance companies. A scheme should be worked out whereby the premiums may be paid in any easy plan either by the laborers concerned or by the firms employing them.

2. In line with the industrialization program of the Government, steps should be taken to equip a forest products laboratory to carry on the work of industrial investigation on forest products.

3. Provisions should be made wherein refundable cash bonds or government bonds which remain unclaimed by the licensees after a period of ten years from the date these licensees are notified, should automatically be forfeited in favor of the Government, in the same manner as bank deposits uncalled for after a certain period are forfeited to the Government.

4. The expenses borne by this Bureau in connection with the work on fishponds should be defrayed by the Bureau of Science; otherwise this activity should be returned to the Bureau of Forestry.

5. Because of the increasing volume of work and the growing activities of this Bureau, a bigger allotment and more personnel should be provided for. To enable this Bureau to exercise a closer supervision over the operations of forest users to the end of increasing revenue and preventing undue destruction of public forests, the need for a larger appropriation cannot be over-emphasized.

#### BUREAU OF LANDS

1. That, in the event the plan of the Housing Committee as signing to the Bureau of Lands the entire Oriente Building and

its annex is not carried out, every possible effort be exerted towards the construction of the proposed Bureau of Lands building in the Wallace Field, at the corner of San Luis and General Luna, to enable us to accommodate the entire personnel.

2. That more vacant public lands available for disposition be subdivided as fast as our resources permit. Once the boundary survey is completed, compulsory registration proceedings should be started immediately in order that the status of the land can be definitely determined before the lots are thrown open to prospective homeseekers. This will instill confidence in the Government entities in charge of land settlements and the homeseekers.

3. That proper recommendation be made to the National Assembly to the end that permanent positions be created for the new 14 district land officers at not less than ₱2,400 each per annum. Among the insular officials in the provinces, the district land officers are the lowest paid. With the social obligation which a district land officer has as a prominent insular official in the locality, the present salary of from ₱1,500 to ₱1,800 a year is totally inadequate. It was not perhaps entirely unbearable at the time when continuous per diems were allowed, but with the suspension of per diems and the reduction in salary, the district land officers now find all sorts of financial difficulties.

4. That amendment of the law be sought to compel free patent applicants to pay survey charges to obviate present difficulties in the collection of cadastral costs from free patent applicants. In fact, in the opinion of this Office, the free patent provisions of the Public Land Act have no cause for further existence. Applicants who have been in occupation for a long time of lands presumably of the public domain, may either perfect their titles judicially under Chapter VIII of the Public Land Act or, if not so qualified, acquire the same administratively under the homestead or sales provisions of the same law. The granting of free patents is expensive, and there are no returns whatsoever received by the Bureau from the applicants. Many persons who could perfect their titles under Chapter VIII of the Public Land Act are simply resorting to the free patent provisions in order to avoid expenses.

5. That the order not to start new cadastral surveys be reconsidered and this Office allowed to proceed with new projects as fast as existing projects are completed, so as not to disband any survey party engaged in cadastral work. Cadastral surveys

are not only advisable but also absolutely necessary (a) to settle boundary disputes, (b) to give proper title to their lands economically, (c) to facilitate credit, (d) to increase land taxes, and (e) to facilitate the administration of the public domain.

#### BUREAU OF SCIENCE

1. Construction of buildings at a total cost of ₱10,000 to accommodate 5 small model semicommercial plants in which demonstrations of the processing of raw materials into finished products are to be made.
2. Equipment for a model totaquina factory at a cost of ₱4,000.
3. Minimum equipment for a model toilet-soap factory (₱1,500). The Bureau receives more communications concerning the manufacture of soap than of any other product.
4. Minimum equipment for model derris (insecticide) factory (₱2,000). This product could be developed into a profitable export trade. It is one of the best insecticides known and is imported into the United States in large quantities.
5. Motor (15 H.P.) and accessory materials for model tanning factory (₱2,000).
6. Model factory for making building boards from waste coconut husk and cane bagasse (₱2,000).
7. Survey, investigation, and development of the fishing industry in the Philippines (₱243,000).
8. Appropriation of sufficient funds for field work in the different sciences and the collection of materials for investigations in connection with industries.
9. Additional space for the Scientific Library should be provided in order to relieve the present congested condition and to provide for expansion, as the library acquires many new volumes each year.
10. Appropriation of funds for adequate Bureau extension work. In the Philippines the diet of the masses is more or less deficient in food nutrients (fats, proteins, vitamins). Many diseases are caused by a deficiency in nutrition or improper preparation of foods. All kinds of fruits, vegetables, and sea-foods have been investigated in the Bureau of Science to determine their nutritional value and also to ascertain suitable methods for preparing and preserving these foods.

The publication of this information in popular bulletins and the distribution of these through schools, puericulture centers, and 4-H clubs will tend to improve the health of the people.

## BUREAU OF COMMERCE

1. That the Manila Trading Center be allowed to operate like a semigovernment business similar to the Cebu Portland Cement and the Manila Railroad Company, in order to eliminate certain bureaucratic obstacles and enable it to run on a more efficient and businesslike basis.

2. That the Manila Trading Center Act No. 4069 be amended so as to make it possible for this institution to handle imported goods under certain conditions mainly to help small merchants and manufacturers, and provided that in doing so it does not affect adversely the business of any national.

3. That the sum of ₱10,000 be appropriated to be spent by this Bureau for the purchase of samples, devices, weights and measures, patterns, moulds, tools, and similar articles for the purpose of demonstration and actual use in connection with the introduction of new industries, improvement of existing standards of Philippine products, and other similar promotional activities.

4. That the Bonded Warehouse Law should be amended to regularize the Bureau's intervention in the liquidation of bonded warehouses going out of business. At present such participation by the Bureau is done in an extra-legal capacity, in the absence of specific provisions of law.

5. That the sum of ₱20,000 be set aside to be used by this Bureau for a survey of world markets of Philippine products not only to look into the possibilities of extending our export trade but also into the advisability of establishing permanent trade-promotion offices in different trade centers which may be selected from the point of view of Philippine export interest.

6. That the Director of Commerce or the Secretary of Agriculture and Commerce be empowered to set up standards in any Philippine export industry except hemp and sugar which are already properly taken care of in this respect.

7. That a Philippine Patent Office be established for the convenience of and in justice to local manufacturers who are now forced to incur unduly high expenses in registering patents at the U. S. Patents Office in Washington, D. C. A draft of a bill for this purpose has already been prepared by this Bureau.

8. That the field service of the Bureau be adequately provided for, beginning with the 1937 appropriation act, to take care of the personnel now being paid from the Rice and Corn Fund and doing full field-service work. The field service of the

Bureau is largely instrumental in bringing our activities to the people in the provinces.

9. That the Division of Purchase and Supply be authorized to purchase Philippine products from the Manila Trading Center and Exchange without the necessity of competitive bidding.

10. That additional personnel be given to the Trade Regulation Division of this Bureau whose work has been continually increasing in connection with the registration not only of corporations, trade-marks, and trade-names, but also of business styles and aliases, and brokers, and the enforcement of Acts Nos. 3067, 3595, and 3596, pertaining to fertilizers, paints, varnishes, nails, and galvanized iron. The proper enforcement of the acts entrusted to this division means additional revenue in the form of registration fees, fines, penalties, and other incomes.

11. That an unfair trade practice commission be created by executive proclamation in order to coördinate and make more effective any effort to wipe out unfair trade practices and unfair trade competition. Efforts along this line in the past had not been successful owing to the lack of such coördination, as in the case of the enforcement of the Anti-Usury Law before the establishment of the Anti-Usury Board. It is suggested that among the members of this commision be included the Director of Commerce, a representative of the Bureau of Justice, a representative of the Bureau of Science, a representative of the Bureau of Internal Revenue, a representative of the Collector of Customs, a representative of the Public Service Commission, and two or three representatives of the business community.

12. That the Government purchase or construct an adequate Commerce Building in a suitable section of the commercial district of the city to avoid paying rent and the frequent transfers that the Bureau has had to undergo during the past owing to lack of an appropriate and adequate building.

#### WEATHER BUREAU

1. The number of rain stations should be increased in order to coöperate with the agriculturists and engineers in solving the weather problems arising in connection with our agricultural and economic development.

2. The number of forecasting stations should be increased in order to give adequate protection to the people against typhoons.

3. A reasonable number of aërological stations should be established for the safety of aërial navigation.

**FIBER INSPECTION SERVICE**

The quality of Philippine fibers must be improved and perfected, especially with reference to its presentation as a raw product. This improvement consists in making each hank contain, from the moment of their stripping in the field, only fibers of one of the established official grades, whereas at present each hank contains fibers of different grades because the producers in stripping them did not concern themselves with separating the fibers in such a way that each hank may contain only fibers of one grade. In order that the producer may become interested in said improvement, it is necessary that he can simultaneously receive its benefits in cash. Therefore, it is necessary that he be familiar with the present official grades of fibers and be able to obtain the full market price of each of these grades, which at present he does not.

From the moment that the producer becomes familiar with the official grades, he will know how to strip the plant in order to produce the official grades of fibers that are most advantageous to him and from which the desired perfect raw material will come. For this purpose the producer needs to possess or at least have access to grading and baling establishments wherein he may see that his fiber has been duly certified in accordance with the official grades and that he has received the price corresponding to each grade. To achieve this, it is necessary to stimulate the setting up of process of grading and baling establishments in places of production with all the necessary assistance that the Fiber Inspection Service can furnish.

Attention is respectfully invited to the fact that the number of grading and baling establishments in the Philippine Islands has been decreasing alarmingly year after year, causing losses worth millions of pesos yearly to the trade and especially to the producers. It is also interesting to note that the precarious and depressed condition of the fiber producer and the falling down in quality of the fibers are in direct ratio with the disappearance of grading and baling establishments due to the absence of Fiber Inspection Service from the centers of production. In connection, therefore, with the above necessity, an extension of the present work of this Service is recommended, in order to stimulate the setting up of grading and baling establishments in places of fiber production, and in order to effect an immediate improvement of the quality of the fibers with simultaneous benefits in cash for the producers.

I have the honor, therefore, to recommend that the creation of the following positions be authorized:

Six fiber inspectors at ₱2,040 per annum.....	₱12,240.00
Twelve assistant fiber inspectors at ₱1,080 per annum....	12,960.00
Six junior fiber inspectors at ₱756 per annum.....	4,536.00

As the new places of inspection are gradually opened, the positions herein recommended will be filled with personnel now in the service, who are already experienced, thereby giving an opportunity to the personnel lower in rank to occupy the positions left vacant by the former.

One fiber inspector at least must be detailed in every province where one or more grading and baling establishments are already in operation. Each fiber inspector may have one or more assistants to help him in the supervision of these establishments, as the circumstances may require.

#### VII. ACKNOWLEDGMENT

In closing this report I wish to acknowledge the sympathetic encouragement which I have always received from His Excellency, the President of the Philippines, in all matters that pertain to this Department. The undersigned also wishes to acknowledge the valuable help that he has received from the directors of bureaus as well as from the heads of divisions and the rest of the personnel of the Department for the splendid coöperation that they have demonstrated in order that the policies of the Department may be carried out.

Respectfully submitted,

EULOGIO RODRIGUEZ  
*Secretary*